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volume 1

Tabelas e gráficos

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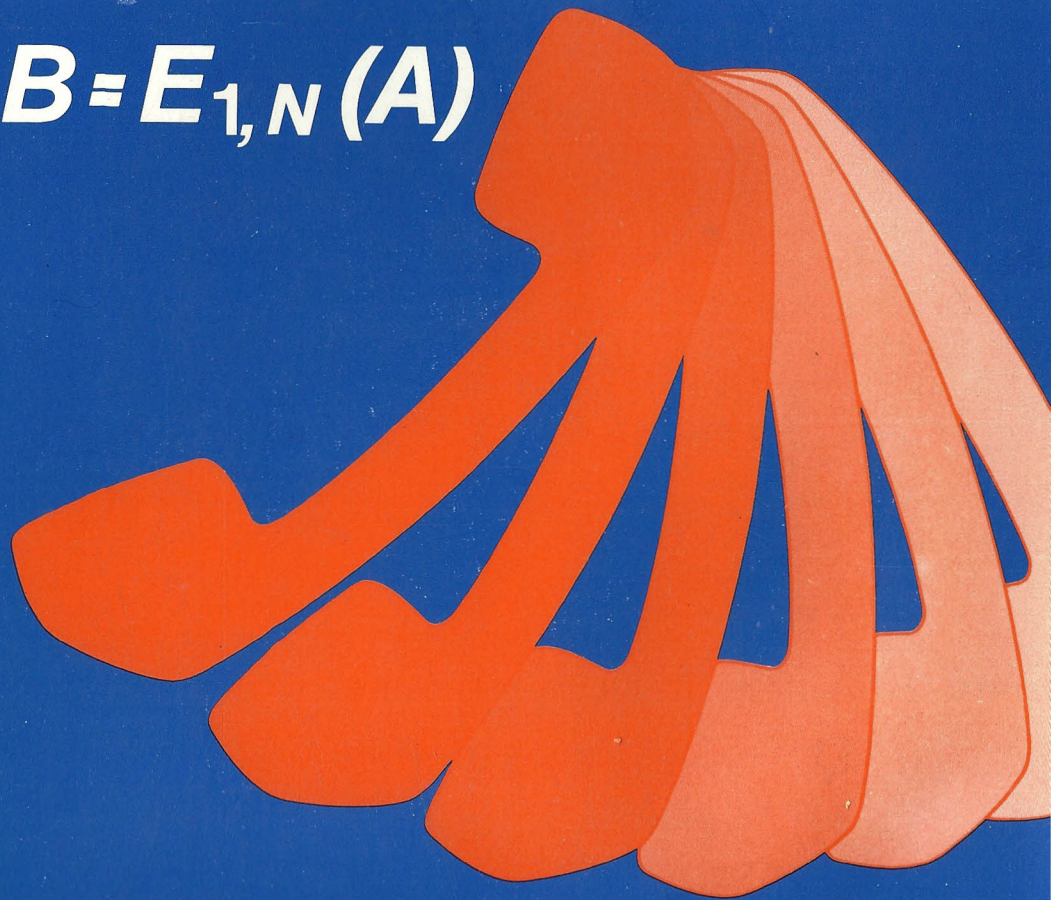

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TABELAS E GRÁFICOS

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Prefácio da 1.ª edição brasileira

Obras sobre telecomunicações e tráfego telefônico, contendo informações técnicas baseadas em uma longa experiência profissional, são de importância fundamental tanto no processo de atualização e reciclagem de conhecimentos, quanto no próprio ensino didático.

O texto aqui apresentado, já consagrado nas áreas profissionais e didáticas, é um auxiliar valioso na área do tráfego telefônico, contendo um texto básico e as tabelas usadas em projetos, permitindo executar o dimensionamento de sistemas.

São Paulo, setembro de 1975

Siemens Sociedade Anônima
Setor de Divulgação Tecnológica

Prefácio da 1.ª edição alemã

O livro *Teoria do tráfego telefônico, tabelas e gráficos* substitui a *Tabelas para planejamento e operação de centrais telefônicas*, publicado em 1961. Contém um resumo de tabelas e diagramas que são utilizados no planejamento e desenvolvimento de centrais telefônicas para dimensionamento da quantidade de troncos e equipamentos de comutação. Da primeira parte da edição de 1961, sofreu ampla e completa reformulação o capítulo que trata dos dados sobre comutação com acessibilidade constante.

Os métodos da teoria do tráfego telefônico se baseiam em princípios de uso internacional e são extraídos essencialmente das investigações de A. K. Erlang. Além disso, com a apresentação das novas fórmulas, ficou patente que, para o desenvolvimento e planejamento de centrais telefônicas, serão empregados, cada vez mais, sistemas de processamento de dados. Em decorrência, foram calculadas, com um equipamento de processamento de dados do sistema Siemens 4004, todas as tabelas deste livro e compostas automaticamente, por meio do equipamento DIGISET de composição óptica por operação luminosa e um computador Siemens 300, usado como computador de composição.

O primeiro capítulo explica os princípios técnicos básicos e os da teoria de tráfego necessários para o uso destes dados. A parte principal do livro é formada pelas tabelas de dimensionamento estabelecidas em cooperação com o Correio Federal Alemão, órgão normativo do sistema telefônico nesse país, para sistemas de perda com acessibilidade plena e limitada. Baseiam-se em princípios da teoria de tráfego um pouco diferentes dos das tabelas correspondentes do livro editado em 1961.

Desse modo, parte-se agora de um tráfego puramente aleatório, originado por um número infinito de fontes de tráfego, mesmo que anteriormente se tenha tomado como base um tráfego procedente de um número finito de fontes de tráfego com uma probabilidade de ocupação média $p = 1/40$. As tabelas para acessibilidade limitada, se referem ao rendimento das graduações-padrão, determinadas por extensas simulações do fluxo de tráfego; para o cálculo de perda usa-se uma fórmula aproximada, estabelecida pelo Instituto de Telecomunicações e de Processamento de Dados da Universidade de Stuttgart.

Em capítulo especial avalia-se uma quantidade menor de dados para sistemas de perda com acessibilidade plena para um tráfego originado por um número finito de fontes de tráfego.

Outros capítulos contêm dados para o dimensionamento de troncos de saída de tráfego excedente, segundo o método do valor de dispersão, assim como gráficos para o cálculo de sistemas de espera com acessibilidade plena.

Com o objetivo de facilitar o emprego das tabelas e gráficos, são dadas explicações, no princípio de cada capítulo, e exemplos de cálculo e fórmulas matemáticas.

Munique, maio de 1970

Prefácio da 2.ª edição alemã

A procura contínua nos leva a publicar uma nova edição que se apresenta, em princípio, sem modificações essenciais.

Munique, janeiro de 1974

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1 Introdução

1.1 Generalidades

As centrais telefônicas são planejadas de tal modo que as chamadas realizadas pelo assinante têm boa probabilidade de sucesso, mesmo nos períodos de tráfego telefônico mais intenso, ou seja, nas chamadas horas de maior movimento. A quantidade de troncos e equipamentos de comutação, necessários para o fluxo do tráfego telefônico, será por isso dimensionada normalmente de tal modo que, durante as horas de maior movimento, somente uma porcentagem muito pequena (em geral previamente estabelecida) de ligações solicitadas não possa ser estabelecida, pelo menos não imediatamente, por falta de equipamentos de comutação, ou seja, ligações que se perdem ou que precisam esperar.

A solução teórica de tais tarefas de dimensionamento pertencem ao setor da teoria de tráfego [13], [14], seguindo um método desenvolvido por A. K. Erlang [3]. Entretanto, na elaboração de projetos práticos e na equação de problemas de engenharia de tráfego relacionados com o planejamento e desenvolvimento de sistemas telefônicos, é imprescindível dispor de tabelas de projeto que forneçam informações imediatas sobre a quantidade de equipamentos de comutação e de troncos necessários em cada caso.

O presente livro contém tais dados fundamentais de dimensionamento. Foram estabelecidos segundo os métodos de probabilidade da teoria do tráfego telefônico, e se relacionam com as suposições referentes a determinadas categorias selecionadas de modelos de tráfego.

A Fig. 1.1 nos dá uma visão geral sobre os dados contidos neste livro, os valores indicados e os requisitos tomados como base para cada um dos modelos de tráfego. Nas seções seguintes, será esclarecido o significado dos termos empregados.

Os valores numéricos, necessários para os dados, foram calculados por um computador do sistema Siemens 4004 e armazenados em portadores de dados, tendo-se por base as sete casas decimais essenciais. Para a composição das tabelas os valores foram arredondados para cima ou para baixo, segundo as normas essenciais para a obtenção de números de uma quantidade de cifras convenientes para tabelas práticas de dimensionamento.

A explicação detalhada dos diferentes dados, e os exemplos numéricos de ordem prática, assim como fórmulas matemáticas são indicados no princípio de cada tabela.

1.2 Conceitos básicos

A rede de comutação (Fig. 1.2) interliga troncos disponíveis a outros troncos vagos ou oferecidos, submetendo-os ao tráfego. Estes podem ser linhas de assinantes, troncos de interligação ou equipamentos de comutação e, se necessário, equipamentos comuns utilizados no estabelecimento das ligações. Os troncos de entrada que conduzem os interesses de tráfego (tráfego telefônico) à rede de comutação, formam o grupo de troncos de entrada. Os troncos de saída que ao mesmo tempo recebem e processam os interesses de conexão para uma determinada tarefa de comutação (rota), formam o grupo de saída.

Uma saída está ocupada, quando existe uma conexão através da rede de comutação entre a saída e o tronco de entrada. O tráfego que passa pelo grupo de troncos de saída constitui, então, uma única chamada, ao utilizar essas saídas. Cada instante de utilização de um equipamento de comutação ou de um tronco se apresenta como sendo uma chamada, independente da sua origem, e de ter sido estabelecida em decorrência de uma conexão entre os dois assinantes, ou não.

O período de tempo durante o qual um tronco de saída está ocupado sem interrupções para fins determinados de comutação se chama *tempo de ocupação*; o tempo durante o qual os troncos de saída são utilizados em média para uma ligação é chamado de *tempo médio de ocupação*.

A intensidade de tráfego é uma medida da densidade de tráfego. É uma quantidade adimensional, sempre representada neste livro pela unidade Erlang* (abreviada para Erl nas figuras, tabelas e exemplos). Seu valor numérico indica o número médio de chamadas efetuadas, simultaneamente, isto é, o número médio de troncos ocupados ao mesmo tempo. Um só tronco ocupado continuamente corresponde, portanto, a um tráfego com o valor de 1 Erl. Além da unidade Erlang são usadas, de vez em quando, algumas outras unidades que estão reunidas na Sec. 1.8.

Em conjunto com o processamento do tráfego através de um grupo de troncos de saída, é normal se utilizarem os termos *chamada* e *intensidade de tráfego* em um sentido mais amplo. A utilização efetiva de um tronco de saída é uma chamada processada. A demanda de uma conexão que requer a utilização de um tronco de saída denomina-se chamada *oferecida*. A demanda de uma conexão que é rejeitada, que se perde ou é transferida para outro grupo de troncos de saída, é uma chamada perdida ou uma ocupação de transbordo. A demanda de uma conexão, que não é processada imediatamente, é denominada *chamada de espera* ou *chamada demorada*. Analo-

*De A. K. Erlang (1872-1929), criador da teoria do tráfego telefônico [3]

gamente, a intensidade do tráfego processado, é denominada *carga processada* ou *tráfego processado*, e a intensidade do tráfego *oferecido* é denominada *carga oferecida*. A diferença entre a carga oferecida e a carga processada é a *intensidade de tráfego rejeitado*. O tráfego excedente rejeitado se denomina *tráfego de transbordo* quando é prevista a possibilidade de encaminhar as chamadas rejeitadas para um outro grupo de troncos (grupo de troncos de transbordo); não ocorrendo essa possibilidade, então o tráfego rejeitado se denomina *tráfego de perda*. No modelo de teoria de tráfego já citado, o tempo médio de ocupação de todas as chamadas *oferecidas*, e também das perdidas, é tomado como o tempo médio de ocupação das chamadas processadas pelos troncos de saída.

No caso de dimensionamento prático de um grupo de troncos de saída devem ser observados os seguintes critérios:

O processamento do tráfego, ou seja, a operação dos equipamentos de comutação como sistema de perda ou como sistema de espera (Sec. 1.3).

As características da central de comutação, no que se refere a acessibilidade e graduação (Ver Sec. 1.4).

O tipo de tráfego oferecido, quanto às suas propriedades estatísticas (Sec. 1.5).

O grau de serviço exigido, referido ao valor da perda ou dos dados de espera (Sec. 1.6).

1.3 Métodos de processamento do tráfego

De acordo com a maneira pela qual um sistema de comutação processa as demandas de ligações caso ocorram bloqueios, distinguem-se as redes que operam como *sistemas de perda*, daquelas que operam como *sistemas de espera*. Entendem-se por bloqueio a situação em que é impossível o estabelecimento de uma nova ligação, por estarem ocupadas todas as linhas do feixe de saída, ou então por não se poder estabelecer nenhuma ligação na rede de comutação até um tronco se tornar livre do grupo de troncos de saída em questão.

Em um sistema de perda, uma chamada oferecida será rejeitada, quando a ligação desejada não pode ser estabelecida imediatamente, devido a um bloqueio. O assinante que chama, recebe então o toque ou sinal de ocupado.

Num sistema de espera, por outro lado, uma chamada oferecida que não pode ser processada imediatamente por causa de um bloqueio, aguardará até que a conexão possa ser completada. Para os tempos de espera que se

apresentam nesse caso, é importante conhecer a seqüência pela qual as chamadas oferecidas são processadas, isto é, a seqüência da sua chegada ou de uma maneira aleatória.

Entretanto existem também sistemas de processamento misto quando, por exemplo, o tempo de espera é limitado, ou quando se limita a quantidade de chamadas de espera simultâneas.

As tabelas contidas neste livro se referem a sistemas de perda, assim como a sistemas de espera puros. Nos sistemas de perda puros, as chamadas oferecidas para as quais não se pode estabelecer nenhuma ligação, desaparecem no sistema sem maiores conseqüências e não exercem carga alguma sobre o grupo de troncos de saída (princípio *lost calls cleared*, [13]). Em um sistema de espera puro serão processadas todas as chamadas oferecidas, sempre que a intensidade do tráfego oferecido (oferta) seja menor do que a quantidade de troncos de saída. Todas as chamadas que precisam esperar, aguardam até o momento em que possam ser processadas; não ocorre também nenhuma perda, contanto que o tempo de espera limitado não seja ultrapassado.

1.4 Propriedades da central de comutação

Acessibilidade

A capacidade de tráfego de um grupo de troncos de saída é determinada principalmente pelo número de troncos deste grupo que podem ser atingidos pelos troncos de entrada, através da rede de comutação em questão, que vem a ser a quantidade de troncos cujos estados "livre" ou "ocupado" possam ser testados. Essa quantidade determina a acessibilidade.

Se a acessibilidade é igual em todos os instantes, e conseqüentemente, independente das condições de ocupação da central de comutação, recebe o nome de *acessibilidade constante*. Em todos os outros casos, usa-se o termo *acessibilidade variável*. Se a acessibilidade é constante e de valor numérico igual à quantidade de troncos do grupo de saída considerado, então é chamada de *acessibilidade plena*. Se a acessibilidade é menor, chama-se *acessibilidade limitada*.

Graduação

Nos casos de centrais de comutação com acessibilidade limitada, os troncos de entrada são agrupados para formarem *subgrupos de graduação*. Todos os troncos de entrada de um subgrupo sempre têm acesso às mesmas saídas. Para aumentar a capacidade de tráfego da rede, as saídas do grupo de

troncos são coordenadas com os subgrupos dos troncos de entrada de uma maneira tal que se possam auxiliar entre si no processamento do tráfego. Esse esquema de interconexão é chamado de *graduação* [13].
Este livro contém tabelas de dimensionamento para sistemas de perda e de espera com acessibilidade plena, assim como para sistemas de perda com acessibilidade limitada. As tabelas de cálculo da acessibilidade limitada estão baseadas num tipo especial de graduação, chamado de graduação-padrão simplificada [9]. Ver Figs. 2.2 e 2.3.

1.5 Propriedades estatísticas do tráfego oferecido

1.5.1. *Hora de maior movimento*

Em virtude de os assinantes que representam as fontes de tráfego iniciarem, independentemente uns dos outros, suas ligações de maneira aleatória, e de realizarem chamadas de durações diferentes, a quantidade de saídas de um grupo de troncos ocupadas simultaneamente oscilará permanentemente. Não obstante podem se observar certas regularidades periódicas devidas, por exemplo, a temporadas ou às estações do ano, como também diferenças entre os diversos dias da semana. As oscilações mais marcantes são aquelas que se apresentam no decurso de um dia. Como as centrais telefônicas são dimensionadas de tal modo que o escoamento do tráfego se realize sem dificuldades, para o devido atendimento dos assinantes, ou seja, com o grau de serviço estipulado inclusive nas horas de maior movimento, todas as funções de planejamento e de dimensionamento do tráfego telefônico serão referidas à hora de maior movimento de um dia normal da semana, da temporada de maior tráfego.
Entende-se por *hora de maior movimento*, segundo uma definição [5] do CCITT*, aquele período de 60 minutos do dia nos quais a intensidade de tráfego de um grupo de troncos em questão atinge o seu valor máximo, tomada a média dos valores nos dias da semana. Na prática, a hora de maior movimento corresponde normalmente só a um quarto de hora.

1.5.2. *Caracterização do tráfego na hora de maior movimento*

Durante a hora de maior movimento, pode-se supor que a densidade do tráfego permanece aproximadamente constante e a quantidade de chamadas simultâneas existentes oscila estatisticamente em torno de um valor médio, denominado *intensidade de tráfego*. Nos estudos da teoria de tráfego, isso corresponde à condição de que o tráfego na central de comutação se encontra no "estado de equilíbrio estatístico" [13].

*Comité Consultatif International Télégraphique et Téléphonique.

Quantidade de fontes de tráfego

As variações aleatórias de quantidade do número de troncos de um grupo ocupado simultaneamente depende, entre outros fatores, da quantidade de fontes de tráfego (assinantes) que origina o tráfego oferecido.

Assim, por exemplo, um tráfego com a intensidade de 5 Erl terá oscilações diferentes se produzido por 10 assinantes (fontes de tráfego) com tráfego intenso ou de 100 assinantes (fontes de tráfego) com tráfego normal. No primeiro caso, não poderá ser ofertada nenhuma nova chamada, quando já existirem 10 chamadas; o tráfego oferecido pode ser atendido por 10 troncos de saída, sem bloqueio (sem perda ou sem tempos de espera). No segundo caso, quando já temos 10 troncos, existem ainda 90 fontes de tráfego livres que podem oferecer novas chamadas. Por conseguinte, para somente 10 troncos de saída se devem esperar perdas e tempos de espera.

Neste livro, a maior parte dos dados para sistemas de perda (Secs. 2.5 e 2.6) e todos os dados para sistemas de espera (Secs. 5.4 e 5.5), se referem a um tráfego produzido por um número infinito de fontes de tráfego e oferecido por um número infinito de troncos de entrada. No modelo da teoria de tráfego correspondente, isso se aplica à suposição de que os intervalos de tempo entre a chegada das chamadas consecutivas estão distribuídos de forma exponencial. Embora na prática não seja satisfeita a condição de um número infinito de fontes de tráfego, o seu número ou o de troncos de entrada, em relação ao número de troncos de saída de um grupo, é tão grande que se pode partir das condições citadas sem grande prejuízo de exatidão. Os dados de dimensionamento, calculados dentro dessas condições, dão sempre resultados com uma probabilidade de bloqueio um pouco maior do que a existente na prática, ou alternativamente a uma carga oferecida permissível um pouco menor que a real.

Somente quando o número de fontes de tráfego não for muito maior que a quantidade de troncos de saída de um grupo, é que os valores da tabela para um número infinito de fontes de tráfego diferem visivelmente dos valores correspondentes da tabela para um número finito de fontes de tráfego. Em virtude de esses casos se apresentarem sobretudo quando são considerados grupos de troncos de saída pequenos, este livro inclui tabelas de dimensionamento para sistemas de perda com acessibilidade plena e com um máximo de 20 troncos de saída. Nessas tabelas a carga de oferta admissível é indicada em função do número de fontes de tráfego (Sec. 3.4).

Distribuição dos tempos de ocupação

Na caracterização das propriedades estatísticas do tráfego oferecido deve-se considerar, além disso, a distribuição dos tempos de ocupação, isto é, o

tipo de oscilação dos tempos de ocupação em torno de seu valor médio. Tendo, por exemplo, todos os tempos de ocupação a mesma duração t_m, então uma saída ocupada estará novamente livre, no mais tardar após esse período t_m, cuja duração pode ser muito variável. Nos dados para sistemas de espera, em particular, deve-se ter em conta o efeito da distribuição dos tempos de ocupação. Esse efeito pode ser desprezado nos sistemas de perda.

Os tempos de ocupação distribuídos de forma exponencial têm um significado especial nos casos práticos de dimensionamento de sistemas. Esse tipo de distribuição pode sempre ser aceito em todos os casos em que a duração das chamadas for determinada essencialmente pelo comportamento do assinante como, por exemplo, no caso de equipamentos de comutação ligados em série com as vias de conversação. Quase todos os dados deste livro se baseiam na disposição de tempos de ocupação distribuídos de forma exponencial. Somente no caso de sistemas de espera são introduzidos também dados para tempos de ocupação constantes. (Sec. 5.5)

Tráfego puramente aleatório

Um tráfego produzido por um número infinito de fontes, no qual tanto os intervalos de tempo de chegada das chamadas consecutivas, assim como também os tempos de ocupação, sejam distribuídos de maneira exponencial, será denominado *tráfego puramente aleatório.*

Tráfego excedente

Um tipo de tráfego que apresente oscilações ainda maiores do que as do tráfego produzido por um número infinito de fontes de tráfego, com intervalos de tempo de chegada das chamadas, distribuídos de maneira exponencial (por exemplo, tráfego puramente aleatório), é o *tráfego excedente* que assim se compõe de chamadas rejeitadas por um ou vários grupos de tronco por falta de saídas disponíveis. Durante alguns períodos há uma grande quantidade de chamadas excedentes, ao passo que em outros, quando ainda existem saídas livres na maioria dos grupos de troncos precedentes, isso dificilmente acontece.

Em adição à intensidade de tráfego, usa-se o coeficiente de dispersão para caracterizar o tráfego excedente. Esse coeficiente demonstra o quanto o número de chamadas simultâneas flutua em torno do seu valor médio. Esse valor de dispersão é definido de tal modo (Sec. 4.2) que, no caso de tráfego puramente aleatório, seja igual a zero. Em casos de mesmo grau de serviço e intensidade de tráfego são necessários mais troncos para se processar o tráfego oferecido, caso em que o coeficiente de dispersão é maior do que zero [1].

O método da variação de tráfego [15], como o aplicado no dimensionamento de tráfego excedente oferecido de grupos de troncos de acessibilidade plena (grupos de troncos de escoamento), será explicado na Sec. 4.3. Para a utilização prática desse método o presente livro contém tabelas (Sec. 4.5) e folhas com gráficos de execução (colocados na capa, no final do livro).

1.6 Grau de serviço

O grau de serviço é uma unidade para definir a qualidade do tráfego processado, sendo uma grandeza dependente do dimensionamento e da quantidade de equipamentos de comutação e troncos.
Em sistemas de perda, o grau de serviço é caracterizado pela perda. Essa é a probabilidade de que uma ocupação oferecida seja rejeitada (perdida), razão pela qual é denominada de *probabilidade de perda.* Seu valor numérico é igual à porcentagem das chamadas oferecidas que são rejeitadas.
Em sistemas de espera, são utilizados os seguintes termos para a caracterização do grau de serviço:

O tempo médio de espera t_w, que indica, na média, de quanto as chamadas demoradas precisam aguardar até o estabelecimento da ligação.

O tempo médio de espera $\bar{t}_w$, que indica de quanto, na média, as chamadas oferecidas devem aguardar para o estabelecimento da ligação. No cálculo desse tempo médio são incluídas também as chamadas não demoradas, com seus tempos de espera iguais a zero.
A probabilidade de uma demora t exceder o valor limite $P(>t)$ indica com que probabilidade uma chamada oferecida precisa esperar mais do que um determinado tempo de espera t para se completar a ligação. O valor numérico é igual à porcentagem de chamadas oferecidas que tenham que esperar mais do que o tempo de espera t para ter início o atendimento.

A probabilidade de espera indica com qual probabilidade uma chamada oferecida não é atendida imediatamente. É o caso do limite da probabilidade $P(>t)$ tender para $t = 0$. Seu valor numérico é igual à porcentagem de chamadas oferecidas que não podem ser atendidas imediatamente.

1.7 Resumo de símbolos e fórmulas básicas

c_A — Quantidade média de chamadas oferecidas aos grupos de troncos de saída por unidade de tempo.

c_y — Quantidade média de chamadas processadas pelo grupo de troncos de saída, por unidade de tempo.

c_R Quantidade média de chamadas rejeitadas, por unidade de tempo.

t_m Tempo médio de ocupação das saídas.

t_w Tempo médio de espera das chamadas de espera.

$\bar{t}_w$ Tempo médio de espera das chamadas oferecidas.

$P(>t)$ Probabilidade de excesso de demora $P(>t)$.

$P(>0)$ Probabilidade de espera.

$A = c_A t_m$ Carga oferecida (conforme definição na Sec. 1.2).

$y = c_y t_m$ Carga processada.

$R = c_R t_m$ Intensidade de tráfego rejeitado, tráfego perdido, tráfego excedente (conforme definição na Sec. 1.2).

$B = \frac{c_R}{c_A}$ Perda, probabilidade de perda, probabilidade de tráfego excedente.

$\bar{t}_w = t_w P(>0)$

$c_A = c_y + c_R$ $\qquad A = y + R$

$c_y = c_A(1-B)$ $\qquad y = A(1-B)$

$c_R = c_A B$ $\qquad R = AB$ $\qquad B = \frac{A-y}{A}$

Obtemos as intensidades de tráfego A, y e R na unidade Erlang (Erl), quando os números de chamadas c_A, c_y e c_R correspondem à mesma unidade de tempo na qual é dado t_m.

Exemplo

Dado: $t_m = 100$ s,
$c_A = 180$ chamadas por hora.

Se a quantidade de chamadas oferecidas se refere, por exemplo, à unidade segundo, então temos

$c_A = \frac{180}{3600}$ chamadas por segundo $= \frac{1}{20}$ chamadas por segundo e com isto

$A = c_A t_m = \frac{1}{20} \cdot 100$ Erl $= 5$ Erl.

1.8 Resumo de unidades de intensidades de tráfego

Erl	Erlang	O valor numérico indica a quantidade média de chamadas simultâneas.
TU	Traffic Unit	
VE	Verkehseinheit	

CCS	Cent Call Seconds	O valor numérico indica a quantidade média de chamadas por hora, tomando-se por base um tempo médio de chamada de 100 s.
HCS	Hundred Call Seconds	
UC	Unit Call	
ARHC	Appels réduits à l'heure chargée	O valor numérico indica a quantidade média de chamadas por hora, tomando-se por base um tempo médio de chamada de 120 s.
EBHC	Equated Busy Hour Call	

Disso resultam as seguintes relações de conversão:

	Erl TU VE	CCS HCS UC	ARHC EBHC
1 Erl = 1 TU = 1 VE =	1	36	30
1 CCS = 1 HCS = 1 UC =	$\frac{1}{36}$	1	$\frac{5}{6}$
1 ARHC = 1 EBHC =	$\frac{1}{30}$	$\frac{6}{5}$	1

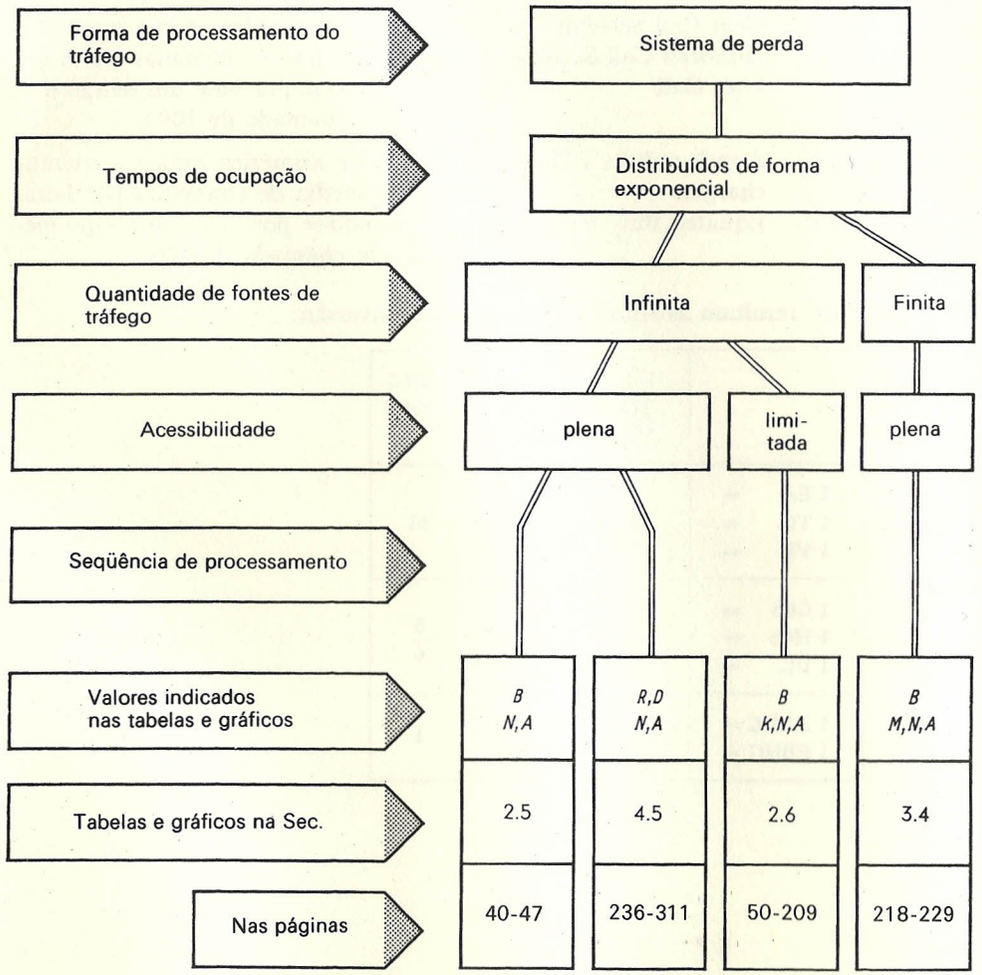
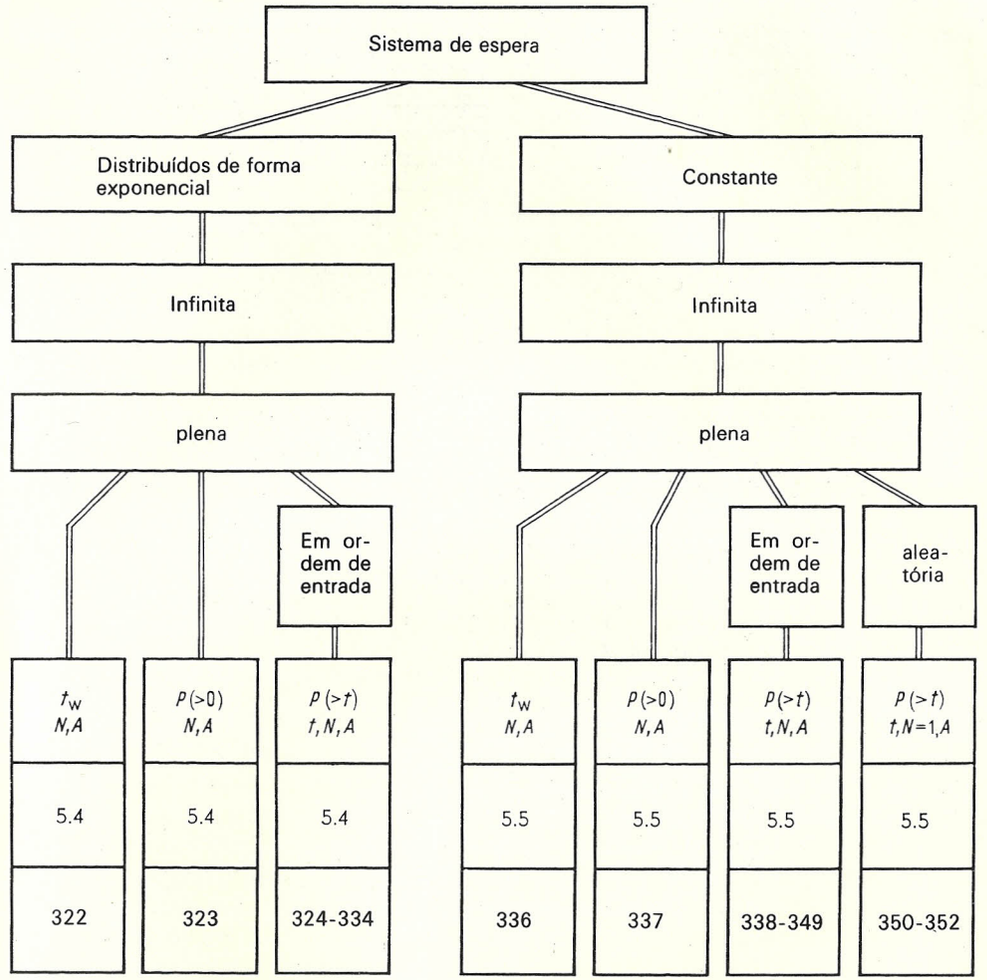


Figura 1.1

Resumos sobre os dados



Abreviaturas

A = Oferta
B = Perda
D = Valor de dispersão do tráfego excedente
k = Acessibilidade
N = Quantidade de linhas de saídas
M = Quantidade de fontes de tráfego
$P(>t)$ = Probabilidade de ultrapassagem de um determinado tempo de espera t
$P(>0)$ = Probabilidade de espera
R = Valor do tráfego excedente
t_w = Tempo de espera médio das chamadas demoradas

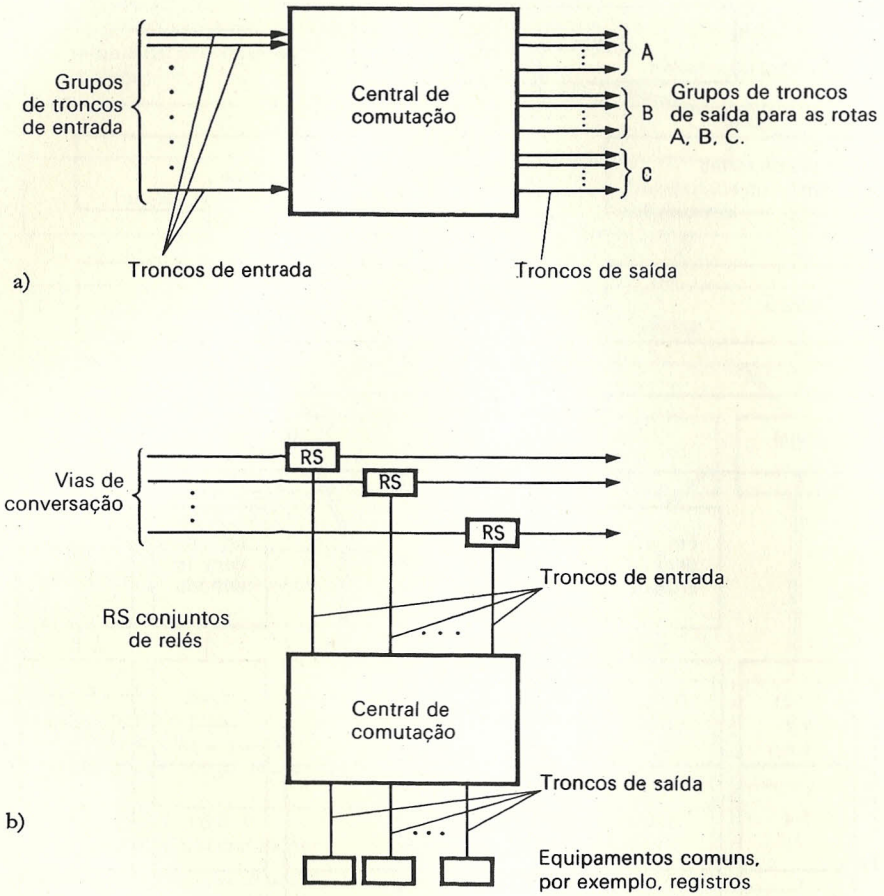


Figura 1.2

Exemplos para o emprego de centrais de comutação
a) Na via de conversação
b) Na via de conexão

2 Tabelas para sistemas de perda com um número infinito de fontes de tráfego com acessibilidade plena e limitada

2.1 Generalidades

As tabelas a seguir servem para o dimensionamento de grupo de troncos de saída que operam em sistemas de perda puros. Isto significa que na proporção em que não alcançam nenhum tronco de saída, desaparecem do sistema sem efeito posterior (princípio *lost calls cleared*) [13].

As tabelas de dimensionamento para sistemas de perda com acessibilidade plena (Sec. 2.5), contêm a carga oferecida admissível A em função da quantidade de saídas N para um total de 26 valores de perda dentro da faixa de $B = 0{,}01\,\%$ até $50\,\%$.

As tabelas de dimensionamento para sistemas de perda com acessibilidade limitada $k < N$ (Sec. 2.6), contêm a carga oferecida admissível A em função da acessibilidade k e da quantidade de saídas N para um total de 20 valores de perda, na faixa de $B = 0{,}1\,\%$ até $50\,\%$. A acessibilidade plena é também incluída nessas cargas, no caso limite de $k = N$.

A suposição de que o tráfego oferecido é produzido por um número infinito de fontes de tráfego, que chega através de um número infinito de troncos de entrada, corresponde, no caso do modelo de tráfego teórico, à suposição de que a probabilidade de uma nova chamada seja constante em todos os momentos. Isso equivale à suposição de que os intervalos de tempo de chegada das chamadas sucessivas estejam distribuídos exponencialmente. Além disso, supõe-se que os tempos de ocupação dos troncos de saída estejam também distribuídos de forma exponencial. O tráfego oferecido é, então, um tráfego puramente aleatório (Sec. 1.5.2).

Com base nessas hipóteses, a perda B para o caso de acessibilidade plena e N saídas é dada pela fórmula de Erlang de primeira espécie, $B = E_{1,N}(A)$, que, dessa maneira, serve para se calcular a carga oferecida permissível A. Essa fórmula e outras relações matemáticas que são de interesse também na utilização prática, serão explicadas, mais detalhadamente, no resumo de fórmulas, Sec. 2.2. As relações entre A, B e N estão representadas na Fig. 2.1.

As tabelas para o caso de acessibilidade limitada foram elaboradas sob a hipótese adicional de que os troncos de entrada explorem seqüencialmente as saídas disponíveis e de que o tipo de graduação empregada é a graduação-

-padrão simplificada [9], com uma relação média de graduação $Q \geqq 2$* para acessibilidade $k \geqq 4$. Somente para $k = 3$ necessitamos, em especial para pequenas perdas, uma relação de graduação Q um pouco maior (dependendo da perda aproximadamente entre 2,5 e 3). Os valores, indicados nas tabelas para $k = 2$, têm significado somente formal, mas podem ser usados para fins de comparação.

As Figs. 2.2 e 2.3 mostram alguns exemplos práticos de execução de combinações normais simplificadas, utilizadas desde 1967 pelo correio alemão – para uma relação de graduação $Q = 2$. Pode-se verificar que é utilizado o mesmo princípio de graduação para quantidades de saídas diferentes, jogando-se com o mesmo número de graduações e mesma acessibilidade [9].

Desde que, nos casos de acessibilidade limitada e para uma dada graduação, a perda B não possa ser determinada em geral por meio de cálculos teóricos, foram realizadas extensas simulações de tráfego [2], [13]. Estas foram baseadas nas propriedades estatísticas de tráfego oferecido, anteriormente citado, para sistemas com graduações-padrão simples, distribuindo uniformemente a carga oferecida aos subgrupos disponíveis. No Instituto de Telecomunicações e Processamento de Dados da Universidade de Stuttgart, foi desenvolvido um método de cálculo que é a chamada "fórmula modificada de Palm Jacobaeus, adaptada às graduações-padrão" – fórmula MPJ adaptada. Os resultados assim obtidos são satisfatoriamente próximos aos valores correspondentes de perda obtidos por simulações, em toda a margem de perda indicada na tabela, até números de troncos de saída de acessibilidade muito grandes [10]. A Fig. 2.4 mostra uma comparação de valores de perda calculados e obtidos através de simulações de tráfego. Com a fórmula MPJ adaptada, adotada também pelo Correio Federal Alemão para o dimensionamento de grupos de troncos de saída em casos de combinações normais simplificadas, foram calculados os valores oferecidos para uma acessibilidade limitada (Sec. 2.6).

O resumo de fórmulas na Sec. 2.2 contêm maiores detalhes sobre a fórmula MPJ adaptada. Algumas relações entre os valores A, B, N e k são representadas nas Figs. 2.5 e 2.6.

A forma de representação na Fig. 2.5, que indica a carga oferecida admissível A em função do número de troncos de saída N para valores pré-estabelecidos da perda B e para diferentes acessibilidades k tem uma importância especial, devido ao fato de ser tomada como base para a adaptação da

*Se uma rede de comutação tem g subgrupos de troncos de entrada, cada um com k terminais (saídas) para a rota considerada, e sendo conectadas N saídas com estes gk terminais então a relação de graduação será $Q = \frac{gk}{N}$.

fórmula MPJ aos valores obtidos por simulação. Os resultados da simulação mostram que, no caso de valores fixos para k e B, a carga média oferecida A/N por tronco de saída cresce com o número N de saídas para pequenos valores de N. Quando N é suficientemente grande, a carga média A/N é uma curva que se torna linear nessa região, permanecendo portanto constante. No caso da fórmula MPJ adaptada, o começo da parte reta da curva, que se denomina *ponto de linearização* N_{LIN}, independe do valor de perda, pois $N_{LIN} = k^2$ para acessibilidade $k \leqq 10$ e $N_{LIN} = 10k$ para $k > 10$. Na prática isso significa que os valores de carga oferecida para troncos de saída $N > N_{LIN}$ podem ser determinados através de extrapolação linear. Esse fato foi utilizado também para a escolha e composição dos valores das tabelas indicadas a seguir, cujo uso será esclarecido na Sec. 2.3 e nos exemplos numéricos na Sec. 2.4.

2.2 Resumo de fórmulas

(Os símbolos empregados são explicados no Cap. 6.)

Fórmulas para o tráfego oferecido

A hipótese matemática formulada anteriormente de que a probabilidade para a chegada τ de uma nova chamada é igual para todos os instantes, é a seguinte [13]:

A probabilidade w de que exatamente uma chamada chegue ao pequeno intervalo τ e $\tau + \Delta\tau$ é independente do tempo no qual o intervalo tem início e é dado pela expressão

$$w = c_A \Delta\tau + o(\Delta\tau), \tag{2.1}$$

em que $o(\Delta\tau)$ é uma função de $\Delta\tau$ que satisfaz a condição de

$$\lim_{\Delta\tau \to 0} \frac{o(\Delta\tau)}{\Delta\tau} = 0.$$

Para o caso de intervalos $\Delta\tau$ suficientemente pequenos, vale portanto

$$w \approx c_A \Delta\tau. \tag{2.1.a}$$

A condição (2.1) tem como conseqüência o fato de que o número de chamadas que chegam durante um período de tempo T, satisfazem a uma distribuição de Poisson com o valor médio $c_A T$. Em outras palavras:
A probabilidade $W(n, T)$ de que, em um intervalo de tempo t, cheguem exatamente n chamadas é dada por

$$W(n, T) = \frac{(c_A T)^n}{n!} e^{-c_A T}, \quad n = 0, 1, 2, \ldots \tag{2.2}$$

A suposição de que os tempos de ocupação são distribuídos de forma exponencial (Sec. 1.5.2) significa:

A probabilidade $h(T)$, de que uma chamada existente continuará a existir durante e além do período de tempo T que segue o instante considerado, e que pode ser o instante no qual a chamada começa a ser processada ou qualquer instante subseqüente no qual a chamada exista, é dado pela expressão

$$h(T) = e^{-\frac{T}{t_m}}. \tag{2.3}$$

As hipóteses (2.1) e (2.3) têm como conseqüência o fato de que o número de chamadas simultâneas existentes em estado não perturbado, ou seja, quando não se rejeitam chamadas por falta de troncos de saída, terá uma distribuição de Poisson com o valor médio A [13]. Então:
A probabilidade P_n de que, em um instante considerado, existam exatamente chamadas simultâneas, é dada por:

$$P_n = \frac{A^n}{n!} e^{-A}, \qquad n = 0, 1, 2, \ldots \tag{2.4}$$

Fórmulas para o processamento do tráfego no caso de acessibilidade plena

Em virtude das hipóteses mencionadas anteriormente para o tráfego oferecido, o número de troncos de saída ocupados simultaneamente em caso de acessibilidade plena ($k = N$) tem uma distribuição de Erlang com o valor médio y. Assim:

A probabilidade P_n, de que exatamente n saídas estejam ocupadas no mesmo instante, é dado pela expressão

$$P_n = \frac{\frac{A^n}{n!}}{\sum_{i=0}^{N} \frac{A^i}{i!}}, \qquad n = 0, 1, 2, \ldots, N \tag{2.5}$$

Para um número infinito de saídas ($N \to \infty$), P_n torna-se idêntico à distribuição de Poisson para o tráfego oferecido, de acordo com a relação (2.4).

A relação (2.5) para o caso especial de $n = N$ será designada por $E_{1,N}(A)$ (fórmula de Erlang da primeira espécie)

$$E_{1,N}(A) = \frac{\frac{A^N}{N!}}{\sum_{i=0}^{N} \frac{A^i}{i!}}. \tag{2.6}$$

$E_{1,N}(A)$ é igual à porcentagem de tempo para a qual todas N saídas estarão ocupadas simultaneamente (congestionamento de tempo [13]). Da hipótese (2.1) conclui-se que o valor próprio de congestionamento de tráfego é igual à perda, e a expressão aproximada é a fórmula de perda de Erlang [3], [13]:

$$B = E_{1,N}(A) = \frac{\frac{A^N}{N!}}{\sum_{i=0}^{N} \frac{A^i}{i!}}. \tag{2.7}$$

Nessa equação o cálculo da carga oferecida admissível A precisa ser efetuado de forma iterativa com valores pré-estabelecidos para N e B.

Para a avaliação numérica, é particularmente útil a fórmula:

$$E_{1,N+1}(A) = \frac{AE_{1,N}(A)}{N + 1 + AE_{1,N}(A)}. \tag{2.8}$$

Essa relação pode ser usada também para calcular a perda para $(N + 1)$ troncos, quando já é conhecida a perda para N linhas.

Fórmulas para o processamento do tráfego para acessibilidade limitada

O ponto de partida para o cálculo da carga oferecida admissível $A(N, k, B)$ para acessibilidade limitada ($k < N$) é a fórmula MPJ (fórmula modificada de Palm-Jacobaeus) [11], [12], [13]. Usando-se uma representação paramétrica (com o parâmetro auxiliar A_0), a fórmula pode ser escrita da seguinte forma

$$\begin{aligned} A_{\text{MPJ}}(N, k, B) &= \frac{A_0}{1 - B}[1 - E_{1,N}(A_0)] \\ B &= \frac{E_{1,N}(A_0)}{E_{1,N-k}(A_0)}, \end{aligned} \tag{2.9}$$

em que $E_{1,N}(A_0)$ e $E_{1,N-k}(A_0)$ são definidos por analogia com a relação (2.6). O parâmetro auxiliar A_0, existente na relação (2.9), pode ser interpretado como a carga oferecida que, com acessibilidade plena, origina a mesma carga das N saídas que a oferta $A_{\text{MPJ}}(N, k, B)$ com a acessibilidade k.

Para uma perda B de valor conhecido, pode se determinar A_0 através da segunda equação da forma paramétrica (2.9) de forma iterativa.

No caso particular de acessibilidade plena ($k = N$), temos

$$A_{\text{MPJ}}(N, N, B) = A_0 \quad \text{e} \quad B = E_{1,N}(A_0)$$

isto é, a relação (2.9) se transforma na fórmula de perda de Erlang (2.7).

A fórmula MPJ pode ser considerada como uma generalização formal da fórmula de perda de Erlang (2.7) para o caso de acessibilidade limitada. Sua validade depende do tipo particular de graduação utilizado.

A adaptação da fórmula para a capacidade de tráfego de graduação-padrão, é obtida pela utilização de diferentes fórmulas, dependendo se o número de troncos N é maior ou menor que um valor N_{LIN} (ponto de linearização), e da acessibilidade k, em que

$$N_{LIN} = \begin{cases} k^2 & \text{para } k \leqq 10 \\ 10\,k & \text{para } k > 10. \end{cases} \qquad (2.10)$$

Para $N \leqq N_{LIN}$ a carga oferecida admissível é calculada pela fórmula

$$A(N, k, B) = A_{MPJ}(N, k, B) - 0{,}3\left(\frac{N}{k} - 1\right)^2 \frac{k-2}{60 + 4k} \frac{1-B}{1 + kB^2}. \qquad (2.11)$$

Para $N > N_{LIN}$, é válida a seguinte relação linear

$$A(N, k, B) = \frac{A(N_{LIN}, k, B)}{N_{LIN}} N. \qquad (2.12)$$

A fórmula (2.12) expressa o fato de que, para valores fixos de perda e de acessibilidade, a carga média oferecida A/N por saída permanece constante para números de troncos $N > N_{LIN}$.

O conjunto de fórmulas, (2.9), (2.10), (2.11) e (2.12), será denominado de "fórmula MPJ adaptada".

2.3 Indicações práticas para o uso das tabelas de dimensionamento

A série de números de troncos de saída N, indicada nas tabelas de acessibilidade plena e limitada, se restringe na faixa de $N = 100$ até 1 100 linhas de saída, a valores fundamentais, os quais são selecionados de tal modo, que a carga oferecida admissível pode ser calculada para todos os valores intermediários, com exatidão suficiente, por meio da interpolação linear.

Para um número de troncos de saída N, compreendido entre 100 e 250, a carga oferecida admissível para valores ímpares de N, é obtida determinando-se a média aritmética dos valores da oferta correspondente a $N-1$ e $N+1$.

Para um número de troncos de saída N, compreendido entre 250 e 1 100, o aumento da carga disponível para cada saída adicional foi indicado em itálico abaixo de cada carga oferecida, para simplificar a interpolação.

Esse aumento foi calculado pela diferença entre 2 valores listados consecutivamente da carga oferecida. Portanto, são válidos em cada caso até o valor de N seguinte, mais alto.

A extrapolação linear é possível também para os casos de acessibilidade limitada, quando $N > 1\,100$, devido a "linearização", mencionada nas fórmulas (2.10) e (2.12) da Sec. 2.2. O aumento da carga oferecida para cada saída adicional, que é indicada por cifras em itálico abaixo do valor para a carga disponível de $N = 1\,100$ troncos, é válido também para todos os valores $N > 1\,100$. Tal aumento é igual à carga disponível média por tronco para o número de linhas de saída N_{LIN}, do ponto de linearização da acessibilidade correspondente [ver fórmula (2.10)].

As regras de interpolação e extrapolação para determinar o número de troncos de saída necessários (1.° caso) ou a carga oferecida admissível (2.° caso) são as seguintes:

1.° *caso*: *Dados* (além de B e k): o valor numérico para a carga oferecida A.
A determinar: o número de troncos de saída N necessários.
Serão usados os seguintes símbolos:

A_F O valor da carga oferecida na coluna apropriada de B ou k mais próxima ao valor dado de A, mas sem excedê-lo,

N_F O valor de N corresponde a A_F,

A_Z O aumento da carga oferecida por linha de saída adicional indicado debaixo de A_F em cifras em itálico.

O número de saídas N procurado se obtém então de

$$N = N_F + \frac{A - A_F}{A_Z}. \qquad (2.13)$$

2.° *caso*: *Dados* (além de B e k): o número de saídas N.
A determinar: a carga oferecida admissível A.
Serão usados os seguintes símbolos:

N_F O número de saídas, na tabela correspondente, mais próximo ao valor dado N, mas sem excedê-lo.

A_F O valor A indicado na coluna B ou k apropriada que corresponde a N_F,

A_Z O aumento da carga oferecida por tronco de saída adicional indicado debaixo de A_F em cifras em itálico.

A carga oferecida admissível A procurada é então

$$A = A_F + (N - N_F)A_Z. \qquad (2.14)$$

2.4 Exemplos numéricos

Os exemplos numéricos são selecionados de tal forma que esclarecem o uso das tabelas, incluindo-se as regras de interpolação e extrapolação indicadas na Sec. 2.3.

Exemplo 1

Dados: Perda $B = 0{,}5\,\%$ — *A determinar*: número de troncos de saída N
Acessibilidade plena
Carga oferecida $A = 93{,}0$ Erl

Na coluna $B = 0{,}5\,\%$ da tabela de acessibilidade plena (Sec. 2.5) e na coluna $k = N$ da tabela de acessibilidade limitada (Sec. 2.6) para $B = 0{,}5\,\%$, indicam-se para $N = 112$ e 114 os valores $A = 92{,}0$ Erl e 93,8 Erl respectivamente. Por interpolação linear se obtém para $N = 113$ o valor $A = 92{,}9$ Erl. Portanto, para a carga oferecida $A = 93{,}0$ Erl devem ser previstas $N = 114$ saídas.

Exemplo 2

Dados: Perda $B = 20\,\%$ — *A determinar*: número N de saídas
Acessibilidade $k = 40$
Carga oferecida $A = 43{,}0$ Erl

Na tabela de acessibilidade limitada (Sec. 2.6), temos para $B = 20\,\%$ e $k = 40$ como valor mínimo de oferta $A = 46{,}1$ Erl para $N = 40$ saídas. Isso significa que, para se processar a carga oferecida dada $A = 43{,}0$ Erl, se necessitam menos de $N = 40$ saídas e que a rede tenha acessibilidade plena. Na coluna de $k = N$ se indicam para $N = 37$ e $N = 38$ os valores $A = 42{,}4$ Erl e $A = 43{,}7$ Erl, respectivamente. Portanto, para a carga oferecida $A = 43{,}0$ Erl devem ser previstas $N = 38$ saídas.

Exemplo 3

Dados: Perda $B = 0{,}4\,\%$ — *A determinar*: número N de saídas
Acessibilidade $k = 10$
Carga oferecida $A = 150{,}0$ Erl

O valor da carga oferecida na tabela para acessibilidade limitada (Sec. 2.6), para $B = 0{,}4\,\%$ e $k = 10$, deve ser mais próximo do valor dado $A = 150{,}0$ Erl, contanto que não o exceda, é $A_F = 133{,}1$ Erl. O número de saídas correspondente é $N_F = 250$. O aumento da carga oferecida para cada saída, indicado debaixo do valor A_F em itálico, é $A_Z = 0{,}532$ Erl. Por meio da

regra de interpolação, indicada na Sec. 2.3, podemos calcular, com a fórmula (2.13), o número de saídas necessárias como segue:

$$N = N_F + \frac{A - A_F}{A_Z} = 250 + \frac{150{,}0 - 133{,}1}{0{,}532} \approx 281{,}8.$$

Serão utilizadas então, 282 saídas.

Exemplo 4

Dados: Perda $B = 1\,\%$ — *A determinar*: número N de saídas
Acessibilidade $k = 40$
Carga oferecida $A = 950{,}0$ Erl

O valor mais próximo do indicado na tabela de acessibilidade limitada (Sec. 2.6) para $B = 1\,\%$ e $k = 40$ e que não seja maior que a carga oferecida $A = 950{,}0$ Erl é $A_F = 933{,}5$ Erl. O número de saídas correspondente é $N_F = 1\,100$. O aumento da carga oferecida por saída, indicado abaixo do valor A_F em itálico, é $A_Z = 0{,}8486$ Erl. Por meio da regra de extrapolação, indicada na Sec. 2.3, com a fórmula (2.13) se pode calcular o número de saídas necessárias conforme abaixo

$$N = N_F + \frac{A - A_F}{A_Z} = 1\,100 + \frac{950{,}0 - 933{,}5}{0{,}8486} \approx 1\,119{,}4.$$

Serão utilizados, portanto, $N = 1\,120$ troncos de saída.

Exemplo 5

Dados: Perda $B = 15\,\%$ — *A determinar*: carga oferecida admissível A em Erl.
Acessibilidade plena
Número de troncos de saída $N = 157$

Na tabela de acessibilidade plena (Sec. 2.5), são indicados, no caso de $B = 15\,\%$ para $N = 156$ e $N = 158$, os valores $A = 177{,}8$ Erl e $A = 180{,}2$ Erl, respectivamente. A carga oferecida admissível a determinar para $N = 157$ saídas se obtém por interpolação linear entre esses dois valores, resultando

$$A = \frac{177{,}8 + 180{,}2}{2}\ \text{Erl} = 179{,}0\ \text{Erl}.$$

Exemplo 6

Dados: Perda $B = 1\,\%$ — *A determinar*: carga oferecida admissível A, em Erl.
Acessibilidade $k = 15$
Número de saídas $N = 177$

Da tabela de acessibilidade limitada (Sec. 2.6) retiramos, para $B = 1\,\%$ e $k = 15$ para $N = 176$ e 178, os valores de $A = 121{,}6$ Erl e 123,0 Erl respectivamente. A carga oferecida admissível para $N = 177$ linhas de saída, é obtida por interpolação linear entre esses valores, resultando

$$A = \frac{121{,}6 + 123{,}0}{2}\,\text{Erl} = 122{,}3\,\text{Erl}.$$

Exemplo 7

Dados: Perda $B = 0{,}3\,\%$ — *A determinar*: carga oferecida admissível
Acessibilidade plena — A em Erl
Número de troncos de saída $N = 657$

O número de saídas mais próximo do indicado nas tabelas, e que não seja maior que $N = 657$ é $N_F = 600$. Para esse valor se indica na coluna $B = 0{,}3\,\%$ da tabela de acessibilidade plena (Sec. 2.5) e na tabela de acessibilidade limitada (Sec. 2.6) para $B = 0{,}3\,\%$ na coluna $k = N$, o valor da carga oferecida $A_F = 555{,}7$ Erl, assim como, abaixo em cifras em itálico, o aumento de oferta para cada saída, válido até $N = 700$, de $A_Z = 0{,}974$ Erl. Segundo a fórmula de interpolação (2.14) se obtém a carga oferecida admissível para $N = 657$ saídas como segue

$$\begin{aligned} A &= A_F + (N - N_F)A_Z \\ &= 555{,}7\,\text{Erl} + (657 - 600)\cdot 0{,}974\,\text{Erl}. \end{aligned}$$

resultando $A = 611{,}2$ Erl.

Exemplo 8

Dados: Perda $B = 0{,}1\,\%$ — *A determinar*: carga oferecida admissível
Acessibilidade $k = 50$ — A em Erl.
Número de saídas $N = 1210$

O número de troncos de saídas que se aproxima mais do indicado na tabela de acessibilidade limitada (Sec. 2.6) que não seja maior que $N = 1210$ é $N_F = 1100$. Para esse valor se indica na tabela, para $B = 0{,}1\,\%$ na coluna para $k = 50$, o valor da carga oferecida $A_F = 902{,}5$ Erl e, abaixo, em cifras em itálico, o aumento da carga oferecida A para cada tronco de saída adicional, válido para $N > 1100$, de $A_Z = 0{,}8204$ Erl. Segundo a regra de extrapolação (2.14), obtém-se a carga oferecida admissível para $N = 1210$ saídas como segue

$$\begin{aligned} A &= A_F + (N - N_F)A_Z \\ &= 902{,}5\,\text{Erl} + (1210 - 1100)\cdot 0{,}8204\,\text{Erl}. \end{aligned}$$

resultando $A = 992{,}7$ Erl.

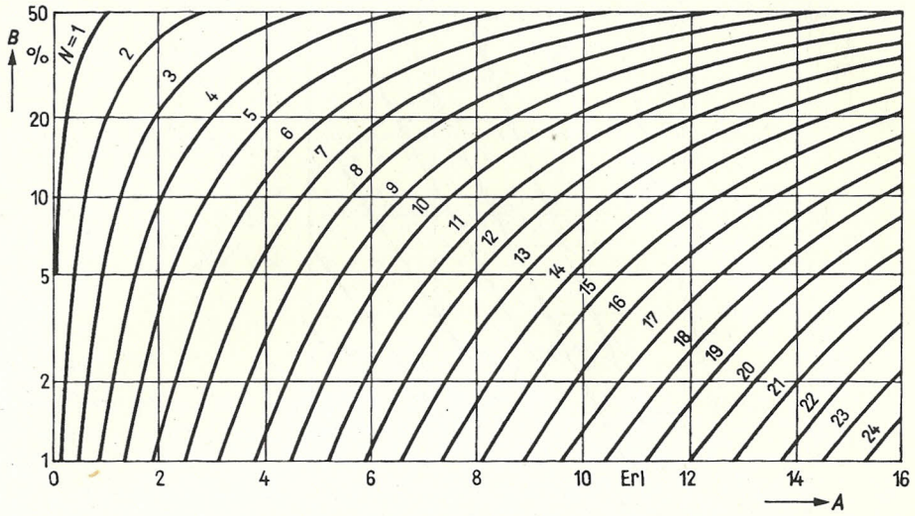


Figura 2.1a

Número infinito de fontes de tráfego, acessibilidade plena:
Perda B em função da carga oferecida A e do número de troncos de saída

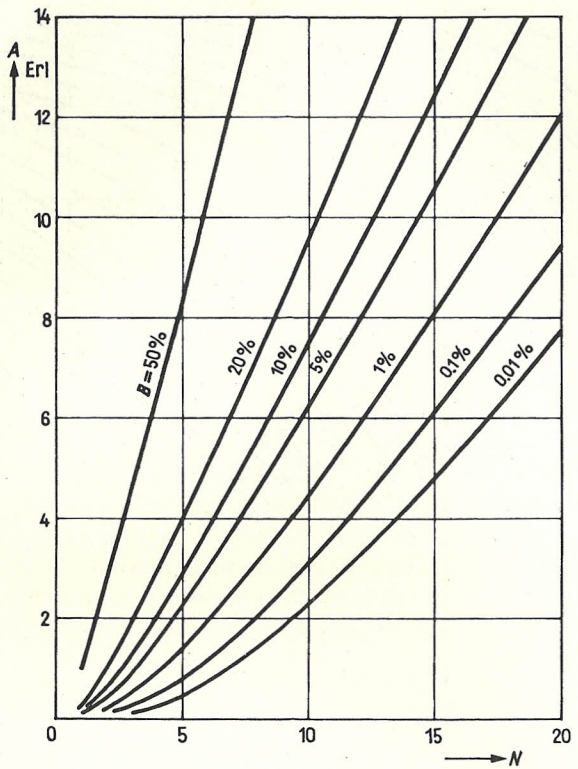


Figura 2.1b

Número infinito de fontes de tráfego, acessibilidade plena:
Carga oferecida A em função do número de troncos de saída N e da perda B

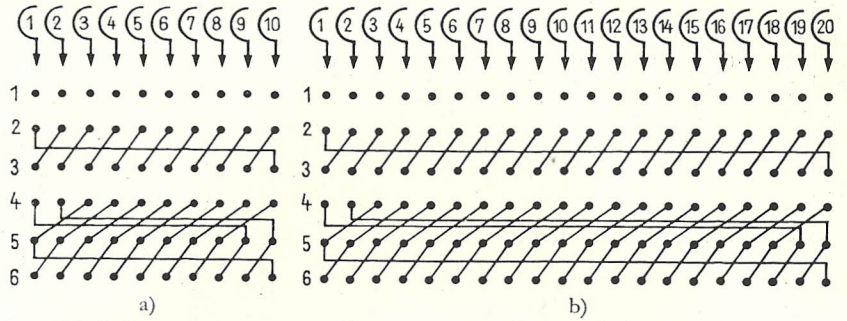


Figura 2.2

Graduações-padrão simplificadas para acessibilidade $k = 6$ e relação de graduação média $Q = 2$:
a) $g = 10$ subgrupos de entrada, $N = 30$ troncos de saída
b) $g = 20$ subgrupos de entrada, $N = 60$ troncos de saída

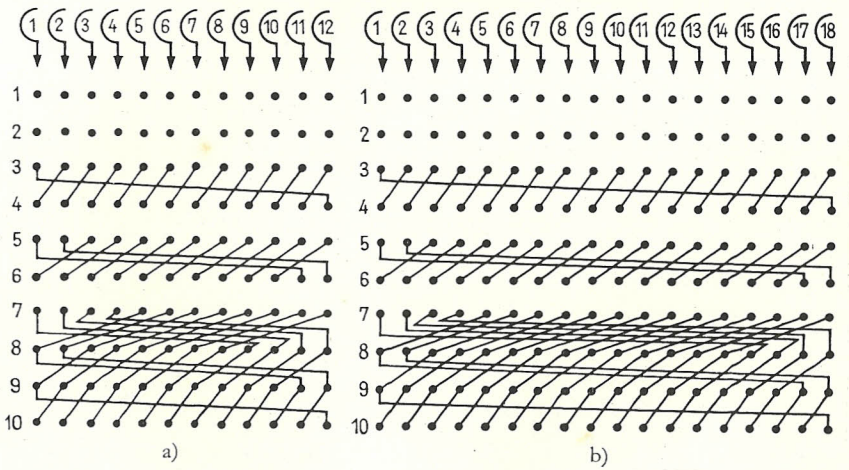


Figura 2.3

Graduações-padrão simplificadas para acessibilidade $k = 10$ e relação de graduação média $Q = 2$:
a) $g = 12$ subgrupos de entrada, $N = 60$ troncos de saída
b) $g = 18$ subgrupos de entrada, $N = 90$ troncos de saída

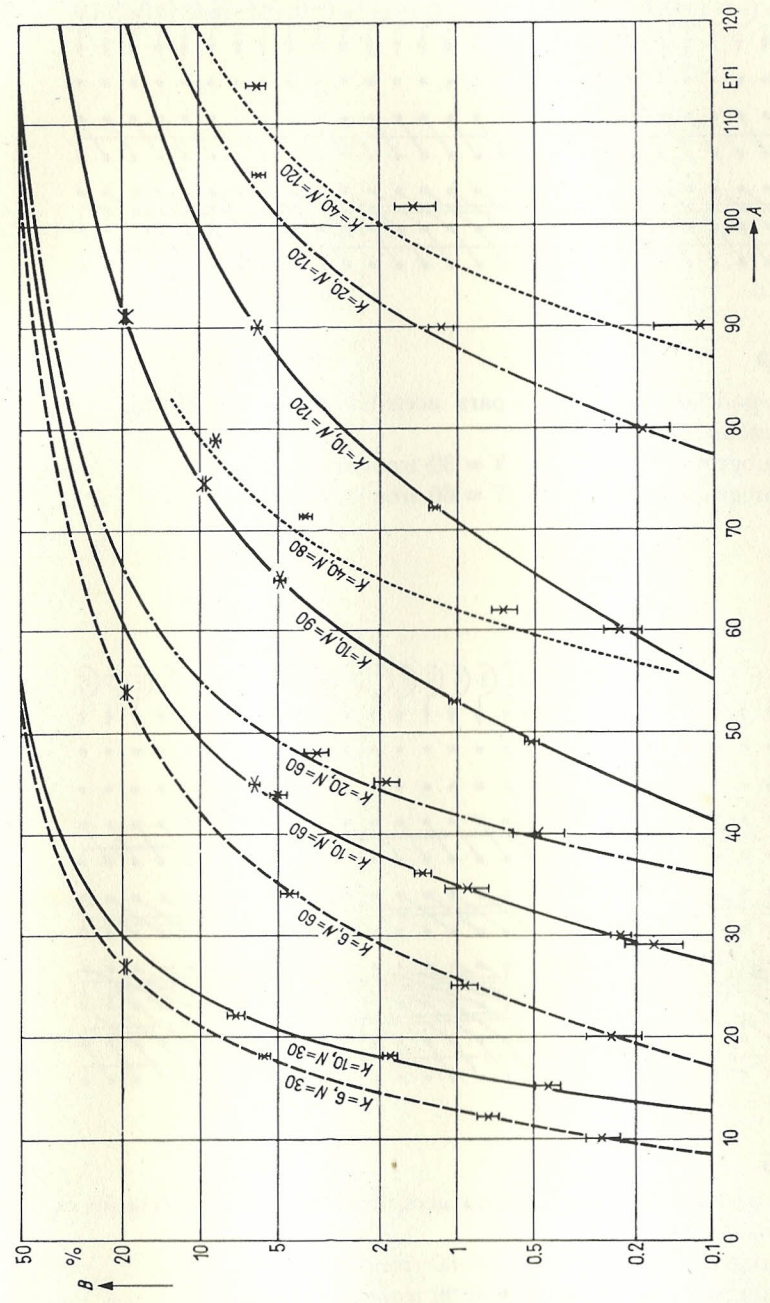


Figura 2.4
Acessibilidade limitada:
Comparação entre os valores calculados (curvas) e resultados de simulação (⊥ valor de perda com intervalo de confiança para 95 % de segurança estatística)

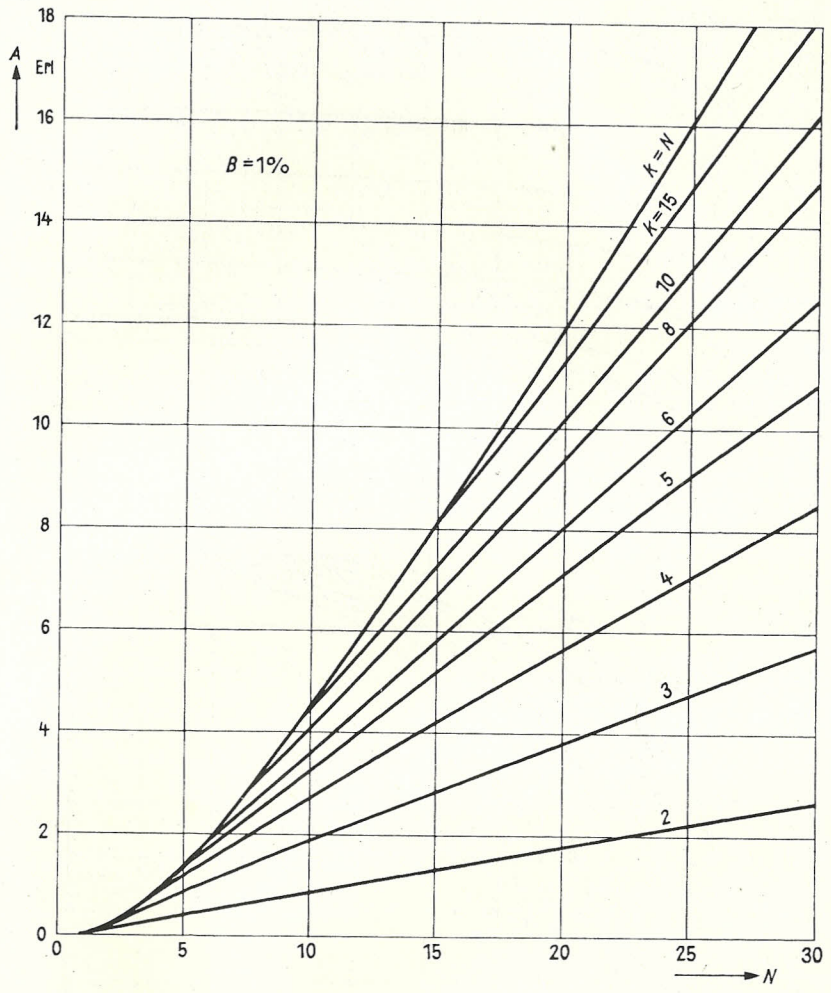


Figura 2.5
Acessibilidade limitada:
Carga oferecida A em função do número de troncos de saída N e da acessibilidade k para uma perda $B = 1\,\%$

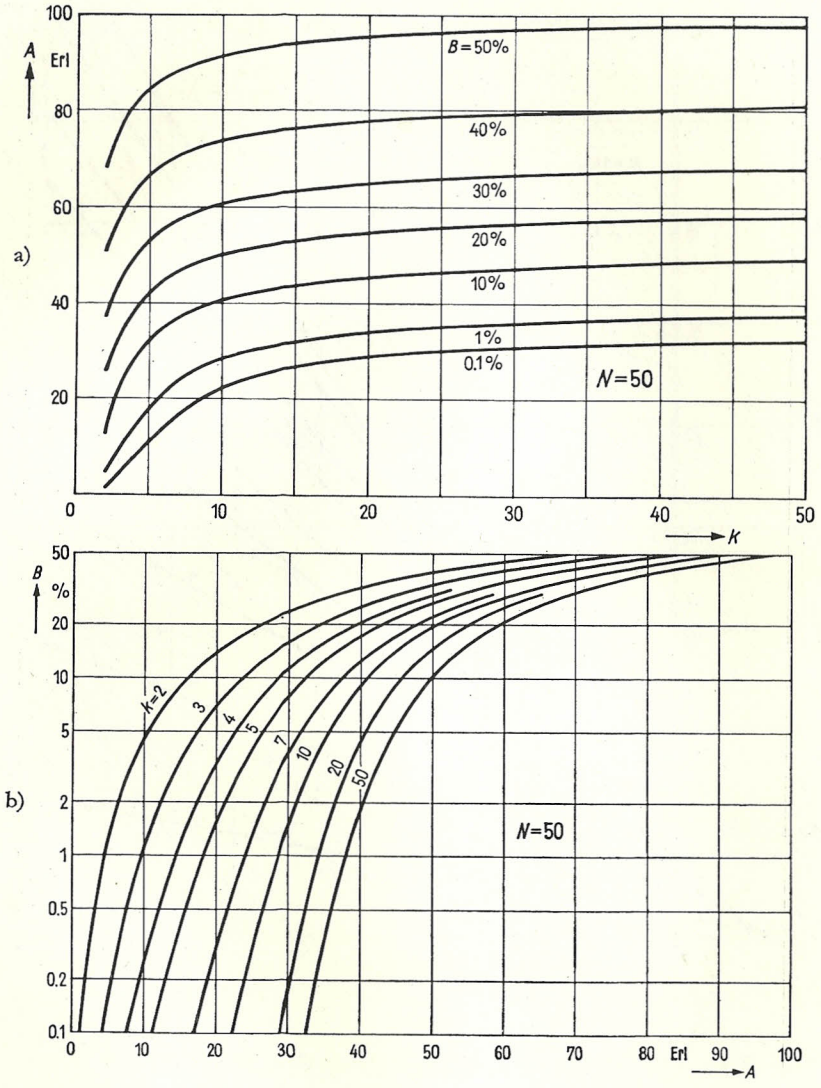


Figura 2.6

Acessibilidade limitada:
a) Carga oferecida A em função da acessibilidade k e da perda B
b) Perda B em função da carga oferecida A e da acessibilidade k

2.5 Tabelas de dimensionamento para acessibilidade plena

Número infinito de fontes de tráfego

Para

B = 0,01 %, 0,02 %, 0,03 %, 0,05 %,
0,1 %, 0,2 %, 0,3 %, 0,4 %, 0,5 %, 0,6 %, 0,7 %, 0,8 %, 0,9 %,
1,0 %, 1,2 %, 1,5 %, 2 %, 3 %, 5 %, 7 %,
10 %, 15 %, 20 %, 30 %, 40 %, 50 %

Para as fórmulas de interpolação referentes à faixa de $250 < N < 1\,100$ troncos de saída, veja a Sec. 2.3

Significado:

A Oferta em Erl
B Perda
N Número de troncos de saída

N	B												N
	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	
1	.0001	.0002	.0003	.0005	.0010	.0020	.0030	.0040	.0050	.0060	.0070	.0081	.0091	1
2	.0142	.0202	.0248	.0321	.0458	.0653	.0806	.0937	.105	.116	.126	.135	.144	2
3	.0868	.110	.127	.152	.194	.249	.289	.321	.349	.374	.397	.418	.437	3
4	.235	.282	.315	.362	.439	.535	.602	.656	.701	.741	.777	.810	.841	4
5	.452	.527	.577	.649	.762	.900	.994	1.07	1.13	1.19	1.24	1.28	1.32	5
6	.728	.832	.900	.996	1.15	1.33	1.45	1.54	1.62	1.69	1.75	1.81	1.86	6
7	1.05	1.19	1.27	1.39	1.58	1.80	1.95	2.06	2.16	2.24	2.31	2.38	2.44	7
8	1.42	1.58	1.69	1.83	2.05	2.31	2.48	2.62	2.73	2.83	2.91	2.99	3.06	8
9	1.83	2.01	2.13	2.30	2.56	2.85	3.05	3.21	3.33	3.44	3.54	3.63	3.71	9
10	2.26	2.47	2.61	2.80	3.09	3.43	3.65	3.82	3.96	4.08	4.19	4.29	4.38	10
11	2.72	2.96	3.12	3.33	3.65	4.02	4.27	4.45	4.61	4.74	4.86	4.97	5.07	11
12	3.21	3.47	3.65	3.88	4.23	4.64	4.90	5.11	5.28	5.43	5.55	5.67	5.78	12
13	3.71	4.01	4.19	4.45	4.83	5.27	5.56	5.78	5.96	6.12	6.26	6.39	6.50	13
14	4.24	4.56	4.76	5.03	5.45	5.92	6.23	6.47	6.66	6.83	6.98	7.12	7.24	14
15	4.78	5.12	5.34	5.63	6.08	6.58	6.91	7.17	7.38	7.56	7.71	7.86	7.99	15
16	5.34	5.70	5.94	6.25	6.72	7.26	7.61	7.88	8.10	8.29	8.46	8.61	8.75	16
17	5.91	6.30	6.55	6.88	7.38	7.95	8.32	8.60	8.83	9.03	9.21	9.37	9.52	17
18	6.50	6.91	7.17	7.52	8.05	8.64	9.03	9.33	9.58	9.79	9.98	10.1	10.3	18
19	7.09	7.53	7.80	8.17	8.72	9.35	9.76	10.1	10.3	10.6	10.7	10.9	11.1	19
20	7.70	8.16	8.44	8.83	9.41	10.1	10.5	10.8	11.1	11.3	11.5	11.7	11.9	20
21	8.32	8.79	9.10	9.50	10.1	10.8	11.2	11.6	11.9	12.1	12.3	12.5	12.7	21
22	8.95	9.44	9.76	10.2	10.8	11.5	12.0	12.3	12.6	12.9	13.1	13.3	13.5	22
23	9.58	10.1	10.4	10.9	11.5	12.3	12.7	13.1	13.4	13.7	13.9	14.1	14.3	23
24	10.2	10.8	11.1	11.6	12.2	13.0	13.5	13.9	14.2	14.5	14.7	14.9	15.1	24
25	10.9	11.4	11.8	12.3	13.0	13.8	14.3	14.7	15.0	15.3	15.5	15.7	15.9	25
26	11.5	12.1	12.5	13.0	13.7	14.5	15.1	15.5	15.8	16.1	16.3	16.6	16.8	26
27	12.2	12.8	13.2	13.7	14.4	15.3	15.8	16.3	16.6	16.9	17.2	17.4	17.6	27
28	12.9	13.5	13.9	14.4	15.2	16.1	16.6	17.1	17.4	17.7	18.0	18.2	18.4	28
29	13.6	14.2	14.6	15.1	15.9	16.8	17.4	17.9	18.2	18.5	18.8	19.1	19.3	29
30	14.2	14.9	15.3	15.9	16.7	17.6	18.2	18.7	19.0	19.4	19.6	19.9	20.1	30
31	14.9	15.6	16.0	16.6	17.4	18.4	19.0	19.5	19.9	20.2	20.5	20.7	21.0	31
32	15.6	16.3	16.8	17.3	18.2	19.2	19.8	20.3	20.7	21.0	21.3	21.6	21.8	32
33	16.3	17.0	17.5	18.1	19.0	20.0	20.6	21.1	21.5	21.9	22.2	22.4	22.7	33
34	17.0	17.8	18.2	18.8	19.7	20.8	21.4	21.9	22.3	22.7	23.0	23.3	23.5	34
35	17.8	18.5	19.0	19.6	20.5	21.6	22.2	22.7	23.2	23.5	23.8	24.1	24.4	35
36	18.5	19.2	19.7	20.3	21.3	22.4	23.1	23.6	24.0	24.4	24.7	25.0	25.3	36
37	19.2	20.0	20.5	21.1	22.1	23.2	23.9	24.4	24.8	25.2	25.6	25.9	26.1	37
38	19.9	20.7	21.2	21.9	22.9	24.0	24.7	25.2	25.7	26.1	26.4	26.7	27.0	38
39	20.6	21.5	22.0	22.6	23.7	24.8	25.5	26.1	26.5	26.9	27.3	27.6	27.9	39
40	21.4	22.2	22.7	23.4	24.4	25.6	26.3	26.9	27.4	27.8	28.1	28.5	28.7	40
41	22.1	23.0	23.5	24.2	25.2	26.4	27.2	27.8	28.2	28.6	29.0	29.3	29.6	41
42	22.8	23.7	24.2	25.0	26.0	27.2	28.0	28.6	29.1	29.5	29.9	30.2	30.5	42
43	23.6	24.5	25.0	25.7	26.8	28.1	28.8	29.4	29.9	30.4	30.7	31.1	31.4	43
44	24.3	25.2	25.8	26.5	27.6	28.9	29.7	30.3	30.8	31.2	31.6	31.9	32.3	44
45	25.1	26.0	26.6	27.3	28.4	29.7	30.5	31.1	31.7	32.1	32.5	32.8	33.1	45
46	25.8	26.8	27.3	28.1	29.3	30.5	31.4	32.0	32.5	33.0	33.4	33.7	34.0	46
47	26.6	27.5	28.1	28.9	30.1	31.4	32.2	32.9	33.4	33.8	34.2	34.6	34.9	47
48	27.3	28.3	28.9	29.7	30.9	32.2	33.1	33.7	34.2	34.7	35.1	35.5	35.8	48
49	28.1	29.1	29.7	30.5	31.7	33.0	33.9	34.6	35.1	35.6	36.0	36.4	36.7	49
50	28.9	29.9	30.5	31.3	32.5	33.9	34.8	35.4	36.0	36.5	36.9	37.2	37.6	50
N	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	N
	B													

N	B												N
	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	
1	.0101	.0121	.0152	.0204	.0309	.0526	.0753	.111	.176	.250	.429	.667	1.00	1
2	.153	.168	.190	.223	.282	.381	.470	.595	.796	1.00	1.45	2.00	2.73	2
3	.455	.489	.535	.602	.715	.899	1.06	1.27	1.60	1.93	2.63	3.48	4.59	3
4	.869	.922	.992	1.09	1.26	1.52	1.75	2.05	2.50	2.95	3.89	5.02	6.50	4
5	1.36	1.43	1.52	1.66	1.88	2.22	2.50	2.88	3.45	4.01	5.19	6.60	8.44	5
6	1.91	2.00	2.11	2.28	2.54	2.96	3.30	3.76	4.44	5.11	6.51	8.19	10.4	6
7	2.50	2.60	2.74	2.94	3.25	3.74	4.14	4.67	5.46	6.23	7.86	9.80	12.4	7
8	3.13	3.25	3.40	3.63	3.99	4.54	5.00	5.60	6.50	7.37	9.21	11.4	14.3	8
9	3.78	3.92	4.09	4.34	4.75	5.37	5.88	6.55	7.55	8.52	10.6	13.0	16.3	9
10	4.46	4.61	4.81	5.08	5.53	6.22	6.78	7.51	8.62	9.68	12.0	14.7	18.3	10
11	5.16	5.32	5.54	5.84	6.33	7.08	7.69	8.49	9.69	10.9	13.3	16.3	20.3	11
12	5.88	6.05	6.29	6.61	7.14	7.95	8.61	9.47	10.8	12.0	14.7	18.0	22.2	12
13	6.61	6.80	7.05	7.40	7.97	8.83	9.54	10.5	11.9	13.2	16.1	19.6	24.2	13
14	7.35	7.56	7.82	8.20	8.80	9.73	10.5	11.5	13.0	14.4	17.5	21.2	26.2	14
15	8.11	8.33	8.61	9.01	9.65	10.6	11.4	12.5	14.1	15.6	18.9	22.9	28.2	15
16	8.88	9.11	9.41	9.83	10.5	11.5	12.4	13.5	15.2	16.8	20.3	24.5	30.2	16
17	9.65	9.89	10.2	10.7	11.4	12.5	13.4	14.5	16.3	18.0	21.7	26.2	32.2	17
18	10.4	10.7	11.0	11.5	12.2	13.4	14.3	15.5	17.4	19.2	23.1	27.8	34.2	18
19	11.2	11.5	11.8	12.3	13.1	14.3	15.3	16.6	18.5	20.4	24.5	29.5	36.2	19
20	12.0	12.3	12.7	13.2	14.0	15.2	16.3	17.6	19.6	21.6	25.9	31.2	38.2	20
21	12.8	13.1	13.5	14.0	14.9	16.2	17.3	18.7	20.8	22.8	27.3	32.8	40.2	21
22	13.7	14.0	14.3	14.9	15.8	17.1	18.2	19.7	21.9	24.1	28.7	34.5	42.1	22
23	14.5	14.8	15.2	15.8	16.7	18.1	19.2	20.7	23.0	25.3	30.1	36.1	44.1	23
24	15.3	15.6	16.0	16.6	17.6	19.0	20.2	21.8	24.2	26.5	31.6	37.8	46.1	24
25	16.1	16.5	16.9	17.5	18.5	20.0	21.2	22.8	25.3	27.7	33.0	39.4	48.1	25
26	17.0	17.3	17.8	18.4	19.4	20.9	22.2	23.9	26.4	28.9	34.4	41.1	50.1	26
27	17.8	18.2	18.6	19.3	20.3	21.9	23.2	24.9	27.6	30.2	35.8	42.8	52.1	27
28	18.6	19.0	19.5	20.2	21.2	22.9	24.2	26.0	28.7	31.4	37.2	44.4	54.1	28
29	19.5	19.9	20.4	21.0	22.1	23.8	25.2	27.1	29.9	32.6	38.6	46.1	56.1	29
30	20.3	20.7	21.2	21.9	23.1	24.8	26.2	28.1	31.0	33.8	40.0	47.7	58.1	30
31	21.2	21.6	22.1	22.8	24.0	25.8	27.2	29.2	32.1	35.1	41.5	49.4	60.1	31
32	22.0	22.5	23.0	23.7	24.9	26.7	28.2	30.2	33.3	36.3	42.9	51.1	62.1	32
33	22.9	23.3	23.9	24.6	25.8	27.7	29.3	31.3	34.4	37.5	44.3	52.7	64.1	33
34	23.8	24.2	24.8	25.5	26.8	28.7	30.3	32.4	35.6	38.8	45.7	54.4	66.1	34
35	24.6	25.1	25.6	26.4	27.7	29.7	31.3	33.4	36.7	40.0	47.1	56.0	68.1	35
36	25.5	26.0	26.5	27.3	28.6	30.7	32.3	34.5	37.9	41.2	48.6	57.7	70.1	36
37	26.4	26.8	27.4	28.3	29.6	31.6	33.3	35.6	39.0	42.4	50.0	59.4	72.1	37
38	27.3	27.7	28.3	29.2	30.5	32.6	34.4	36.6	40.2	43.7	51.4	61.0	74.1	38
39	28.1	28.6	29.2	30.1	31.5	33.6	35.4	37.7	41.3	44.9	52.8	62.7	76.1	39
40	29.0	29.5	30.1	31.0	32.4	34.6	36.4	38.8	42.5	46.1	54.2	64.4	78.1	40
41	29.9	30.4	31.0	31.9	33.4	35.6	37.4	39.9	43.6	47.4	55.7	66.0	80.1	41
42	30.8	31.3	31.9	32.8	34.3	36.6	38.4	40.9	44.8	48.6	57.1	67.7	82.1	42
43	31.7	32.2	32.8	33.8	35.3	37.6	39.5	42.0	45.9	49.9	58.5	69.3	84.1	43
44	32.5	33.1	33.7	34.7	36.2	38.6	40.5	43.1	47.1	51.1	59.9	71.0	86.1	44
45	33.4	34.0	34.6	35.6	37.2	39.6	41.5	44.2	48.2	52.3	61.3	72.7	88.1	45
46	34.3	34.9	35.6	36.5	38.1	40.5	42.6	45.2	49.4	53.6	62.8	74.3	90.1	46
47	35.2	35.8	36.5	37.5	39.1	41.5	43.6	46.3	50.6	54.8	64.2	76.0	92.1	47
48	36.1	36.7	37.4	38.4	40.0	42.5	44.6	47.4	51.7	56.0	65.6	77.7	94.1	48
49	37.0	37.6	38.3	39.3	41.0	43.5	45.7	48.5	52.9	57.3	67.0	79.3	96.1	49
50	37.9	38.5	39.2	40.3	41.9	44.5	46.7	49.6	54.0	58.5	68.5	81.0	98.1	50
N	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	N
	B													

N	B												
	0.01%	0.02%σ	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%
50	28.9	29.9	30.5	31.3	32.5	33.9	34.8	35.4	36.0	36.5	36.9	37.2	37.6
51	29.6	30.6	31.3	32.1	33.3	34.7	35.6	36.3	36.9	37.3	37.8	38.1	38.5
52	30.4	31.4	32.0	32.9	34.2	35.6	36.5	37.2	37.7	38.2	38.6	39.0	39.4
53	31.2	32.2	32.8	33.7	35.0	36.4	37.3	38.0	38.6	39.1	39.5	39.9	40.3
54	31.9	33.0	33.6	34.5	35.8	37.2	38.2	38.9	39.5	40.0	40.4	40.8	41.2
55	32.7	33.8	34.4	35.3	36.6	38.1	39.0	39.8	40.4	40.9	41.3	41.7	42.1
56	33.5	34.6	35.2	36.1	37.5	38.9	39.9	40.6	41.2	41.7	42.2	42.6	43.0
57	34.3	35.4	36.0	36.9	38.3	39.8	40.8	41.5	42.1	42.6	43.1	43.5	43.9
58	35.1	36.2	36.8	37.8	39.1	40.6	41.6	42.4	43.0	43.5	44.0	44.4	44.8
59	35.8	37.0	37.6	38.6	40.0	41.5	42.5	43.3	43.9	44.4	44.9	45.3	45.7
60	36.6	37.8	38.5	39.4	40.8	42.4	43.4	44.1	44.8	45.3	45.8	46.2	46.6
61	37.4	38.6	39.3	40.2	41.6	43.2	44.2	45.0	45.6	46.2	46.7	47.1	47.5
62	38.2	39.4	40.1	41.0	42.5	44.1	45.1	45.9	46.5	47.1	47.6	48.0	48.4
63	39.0	40.2	40.9	41.9	43.3	44.9	46.0	46.8	47.4	48.0	48.5	48.9	49.3
64	39.8	41.0	41.7	42.7	44.2	45.8	46.8	47.6	48.3	48.9	49.4	49.8	50.2
65	40.6	41.8	42.5	43.5	45.0	46.6	47.7	48.5	49.2	49.8	50.3	50.7	51.1
66	41.4	42.6	43.3	44.4	45.8	47.5	48.6	49.4	50.1	50.7	51.2	51.6	52.0
67	42.2	43.4	44.2	45.2	46.7	48.4	49.5	50.3	51.0	51.6	52.1	52.5	53.0
68	43.0	44.2	45.0	46.0	47.5	49.2	50.3	51.2	51.9	52.5	53.0	53.4	53.9
69	43.8	45.0	45.8	46.8	48.4	50.1	51.2	52.1	52.8	53.4	53.9	54.4	54.8
70	44.6	45.8	46.6	47.7	49.2	51.0	52.1	53.0	53.7	54.3	54.8	55.3	55.7
71	45.4	46.7	47.5	48.5	50.1	51.8	53.0	53.8	54.6	55.2	55.7	56.2	56.6
72	46.2	47.5	48.3	49.4	50.9	52.7	53.9	54.7	55.5	56.1	56.6	57.1	57.5
73	47.0	48.3	49.1	50.2	51.8	53.6	54.7	55.6	56.4	57.0	57.5	58.0	58.5
74	47.8	49.1	49.9	51.0	52.7	54.5	55.6	56.5	57.3	57.9	58.4	58.9	59.4
75	48.6	49.9	50.8	51.9	53.5	55.3	56.5	57.4	58.2	58.8	59.3	59.8	60.3
76	49.4	50.8	51.6	52.7	54.4	56.2	57.4	58.3	59.1	59.7	60.3	60.8	61.2
77	50.2	51.6	52.4	53.6	55.2	57.1	58.3	59.2	60.0	60.6	61.2	61.7	62.1
78	51.1	52.4	53.3	54.4	56.1	58.0	59.2	60.1	60.9	61.5	62.1	62.6	63.1
79	51.9	53.2	54.1	55.3	56.9	58.8	60.1	61.0	61.8	62.4	63.0	63.5	64.0
80	52.7	54.1	54.9	56.1	57.8	59.7	61.0	61.9	62.7	63.3	63.9	64.4	64.9
81	53.5	54.9	55.8	56.9	58.7	60.6	61.8	62.8	63.6	64.2	64.8	65.4	65.8
82	54.3	55.7	56.6	57.8	59.5	61.5	62.7	63.7	64.5	65.2	65.7	66.3	66.8
83	55.1	56.6	57.5	58.6	60.4	62.4	63.6	64.6	65.4	66.1	66.7	67.2	67.7
84	56.0	57.4	58.3	59.5	61.3	63.2	64.5	65.5	66.3	67.0	67.6	68.1	68.6
85	56.8	58.2	59.1	60.4	62.1	64.1	65.4	66.4	67.2	67.9	68.5	69.1	69.6
86	57.6	59.1	60.0	61.2	63.0	65.0	66.3	67.3	68.1	68.8	69.4	70.0	70.5
87	58.4	59.9	60.8	62.1	63.9	65.9	67.2	68.2	69.0	69.7	70.3	70.9	71.4
88	59.3	60.8	61.7	62.9	64.7	66.8	68.1	69.1	69.9	70.6	71.3	71.8	72.3
89	60.1	61.6	62.5	63.8	65.6	67.7	69.0	70.0	70.8	71.6	72.2	72.8	73.3
90	60.9	62.4	63.4	64.6	66.5	68.6	69.9	70.9	71.8	72.5	73.1	73.7	74.2
91	61.8	63.3	64.2	65.5	67.4	69.4	70.8	71.8	72.7	73.4	74.0	74.6	75.1
92	62.6	64.1	65.1	66.3	68.2	70.3	71.7	72.7	73.6	74.3	75.0	75.5	76.1
93	63.4	65.0	65.9	67.2	69.1	71.2	72.6	73.6	74.5	75.2	75.9	76.5	77.0
94	64.2	65.8	66.8	68.1	70.0	72.1	73.5	74.5	75.4	76.2	76.8	77.4	77.9
95	65.1	66.6	67.6	68.9	70.9	73.0	74.4	75.5	76.3	77.1	77.7	78.3	78.9
96	65.9	67.5	68.5	69.8	71.7	73.9	75.3	76.4	77.2	78.0	78.7	79.3	79.8
97	66.8	68.3	69.3	70.7	72.6	74.8	76.2	77.3	78.2	78.9	79.6	80.2	80.7
98	67.6	69.2	70.2	71.5	73.5	75.7	77.1	78.2	79.1	79.8	80.5	81.1	81.7
99	68.4	70.0	71.0	72.4	74.4	76.6	78.0	79.1	80.0	80.8	81.4	82.0	82.6
100	69.3	70.9	71.9	73.2	75.2	77.5	78.9	80.0	80.9	81.7	82.4	83.0	83.5
	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%
N	B												

N	B												
	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %
50	37.9	38.5	39.2	40.3	41.9	44.5	46.7	49.6	54.0	58.5	68.5	81.0	98.1
51	38.8	39.4	40.1	41.2	42.9	45.5	47.7	50.6	55.2	59.7	69.9	82.7	100.1
52	39.7	40.3	41.0	42.1	43.9	46.5	48.8	51.7	56.3	61.0	71.3	84.3	102.1
53	40.6	41.2	42.0	43.1	44.8	47.5	49.8	52.8	57.5	62.2	72.7	86.0	104.1
54	41.5	42.1	42.9	44.0	45.8	48.5	50.8	53.9	58.7	63.5	74.2	87.6	106.1
55	42.4	43.0	43.8	44.9	46.7	49.5	51.9	55.0	59.8	64.7	75.6	89.3	108.1
56	43.3	43.9	44.7	45.9	47.7	50.5	52.9	56.1	61.0	65.9	77.0	91.0	110.1
57	44.2	44.8	45.7	46.8	48.7	51.5	53.9	57.1	62.1	67.2	78.4	92.6	112.1
58	45.1	45.8	46.6	47.8	49.6	52.6	55.0	58.2	63.3	68.4	79.8	94.3	114.1
59	46.0	46.7	47.5	48.7	50.6	53.6	56.0	59.3	64.5	69.7	81.3	96.0	116.1
60	46.9	47.6	48.4	49.6	51.6	54.6	57.1	60.4	65.6	70.9	82.7	97.6	118.1
61	47.9	48.5	49.4	50.6	52.5	55.6	58.1	61.5	66.8	72.1	84.1	99.3	120.1
62	48.8	49.4	50.3	51.5	53.5	56.6	59.1	62.6	68.0	73.4	85.5	101.0	122.1
63	49.7	50.4	51.2	52.5	54.5	57.6	60.2	63.7	69.1	74.6	87.0	102.6	124.1
64	50.6	51.3	52.2	53.4	55.4	58.6	61.2	64.8	70.3	75.9	88.4	104.3	126.1
65	51.5	52.2	53.1	54.4	56.4	59.6	62.3	65.8	71.4	77.1	89.8	106.0	128.1
66	52.4	53.1	54.0	55.3	57.4	60.6	63.3	66.9	72.6	78.3	91.2	107.6	130.1
67	53.4	54.1	55.0	56.3	58.4	61.6	64.4	68.0	73.8	79.6	92.7	109.3	132.1
68	54.3	55.0	55.9	57.2	59.3	62.6	65.4	69.1	74.9	80.8	94.1	111.0	134.1
69	55.2	55.9	56.9	58.2	60.3	63.7	66.4	70.2	76.1	82.1	95.5	112.6	136.1
70	56.1	56.8	57.8	59.1	61.3	64.7	67.5	71.3	77.3	83.3	96.9	114.3	138.1
71	57.0	57.8	58.7	60.1	62.3	65.7	68.5	72.4	78.4	84.6	98.4	115.9	140.1
72	58.0	58.7	59.7	61.0	63.2	66.7	69.6	73.5	79.6	85.8	99.8	117.6	142.1
73	58.9	59.6	60.6	62.0	64.2	67.7	70.6	74.6	80.8	87.0	101.2	119.3	144.1
74	59.8	60.6	61.6	62.9	65.2	68.7	71.7	75.6	81.9	88.3	102.7	120.9	146.1
75	60.7	61.5	62.5	63.9	66.2	69.7	72.7	76.7	83.1	89.5	104.1	122.6	148.0
76	61.7	62.4	63.4	64.9	67.2	70.8	73.8	77.8	84.2	90.8	105.5	124.3	150.0
77	62.6	63.4	64.4	65.8	68.1	71.8	74.8	78.9	85.4	92.0	106.9	125.9	152.0
78	63.5	64.3	65.3	66.8	69.1	72.8	75.9	80.0	86.6	93.3	108.4	127.6	154.0
79	64.4	65.2	66.3	67.7	70.1	73.8	76.9	81.1	87.7	94.5	109.8	129.3	156.0
80	65.4	66.2	67.2	68.7	71.1	74.8	78.0	82.2	88.9	95.7	111.2	130.9	158.0
81	66.3	67.1	68.2	69.6	72.1	75.8	79.0	83.3	90.1	97.0	112.6	132.6	160.0
82	67.2	68.0	69.1	70.6	73.0	76.9	80.1	84.4	91.2	98.2	114.1	134.3	162.0
83	68.2	69.0	70.1	71.6	74.0	77.9	81.1	85.5	92.4	99.5	115.5	135.9	164.0
84	69.1	69.9	71.0	72.5	75.0	78.9	82.2	86.6	93.6	100.7	116.9	137.6	166.0
85	70.0	70.9	71.9	73.5	76.0	79.9	83.2	87.7	94.7	102.0	118.3	139.3	168.0
86	70.9	71.8	72.9	74.5	77.0	80.9	84.3	88.8	95.9	103.2	119.8	140.9	170.0
87	71.9	72.7	73.8	75.4	78.0	82.0	85.3	89.9	97.1	104.5	121.2	142.6	172.0
88	72.8	73.7	74.8	76.4	78.9	83.0	86.4	91.0	98.2	105.7	122.6	144.3	174.0
89	73.7	74.6	75.7	77.3	79.9	84.0	87.4	92.1	99.4	106.9	124.0	145.9	176.0
90	74.7	75.6	76.7	78.3	80.9	85.0	88.5	93.1	100.6	108.2	125.5	147.6	178.0
91	75.6	76.5	77.6	79.3	81.9	86.0	89.5	94.2	101.7	109.4	126.9	149.3	180.0
92	76.6	77.4	78.6	80.2	82.9	87.1	90.6	95.3	102.9	110.7	128.3	150.9	182.0
93	77.5	78.4	79.6	81.2	83.9	88.1	91.6	96.4	104.1	111.9	129.7	152.6	184.0
94	78.4	79.3	80.5	82.2	84.9	89.1	92.7	97.5	105.3	113.2	131.2	154.3	186.0
95	79.4	80.3	81.5	83.1	85.8	90.1	93.7	98.6	106.4	114.4	132.6	155.9	188.0
96	80.3	81.2	82.4	84.1	86.8	91.1	94.8	99.7	107.6	115.7	134.0	157.6	190.0
97	81.2	82.2	83.4	85.1	87.8	92.2	95.8	100.8	108.8	116.9	135.5	159.3	192.0
98	82.2	83.1	84.3	86.0	88.8	93.2	96.9	101.9	109.9	118.2	136.9	160.9	194.0
99	83.1	84.1	85.3	87.0	89.8	94.2	97.9	103.0	111.1	119.4	138.3	162.6	196.0
100	84.1	85.0	86.2	88.0	90.8	95.2	99.0	104.1	112.3	120.6	139.7	164.3	198.0
	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %
N	B												N

N	B												
	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%
100	69.3	70.9	71.9	73.2	75.2	77.5	78.9	80.0	80.9	81.7	82.4	83.0	83.5
102	70.9	72.6	73.6	75.0	77.0	79.3	80.7	81.8	82.7	83.5	84.2	84.8	85.4
104	72.6	74.3	75.3	76.7	78.8	81.1	82.5	83.7	84.6	85.4	86.1	86.7	87.3
106	74.3	76.0	77.1	78.5	80.5	82.8	84.3	85.5	86.4	87.2	87.9	88.6	89.2
108	76.0	77.7	78.8	80.2	82.3	84.6	86.2	87.3	88.3	89.1	89.8	90.5	91.1
110	77.7	79.4	80.5	81.9	84.1	86.4	88.0	89.2	90.1	90.9	91.7	92.3	92.9
112	79.4	81.1	82.2	83.7	85.8	88.3	89.8	91.0	92.0	92.8	93.5	94.2	94.8
114	81.1	82.9	84.0	85.4	87.6	90.1	91.6	92.8	93.8	94.7	95.4	96.1	96.7
116	82.8	84.6	85.7	87.2	89.4	91.9	93.5	94.7	95.7	96.5	97.3	98.0	98.6
118	84.5	86.3	87.4	89.0	91.2	93.7	95.3	96.5	97.5	98.4	99.2	99.9	100.5
120	86.2	88.0	89.2	90.7	93.0	95.5	97.1	98.4	99.4	100.3	101.0	101.7	102.4
122	87.9	89.8	90.9	92.5	94.7	97.3	98.9	100.2	101.2	102.1	102.9	103.6	104.3
124	89.6	91.5	92.7	94.2	96.5	99.1	100.8	102.1	103.1	104.0	104.8	105.5	106.2
126	91.3	93.2	94.4	96.0	98.3	100.9	102.6	103.9	105.0	105.9	106.7	107.4	108.1
128	93.1	95.0	96.2	97.8	100.1	102.7	104.5	105.8	106.8	107.7	108.5	109.3	109.9
130	94.8	96.7	97.9	99.5	101.9	104.6	106.3	107.6	108.7	109.6	110.4	111.2	111.8
132	96.5	98.5	99.7	101.3	103.7	106.4	108.1	109.5	110.5	111.5	112.3	113.1	113.7
134	98.2	100.2	101.4	103.1	105.5	108.2	110.0	111.3	112.4	113.4	114.2	115.0	115.6
136	100.0	101.9	103.2	104.9	107.3	110.0	111.8	113.2	114.3	115.2	116.1	116.8	117.5
138	101.7	103.7	105.0	106.6	109.1	111.9	113.7	115.0	116.2	117.1	118.0	118.7	119.4
140	103.4	105.4	106.7	108.4	110.9	113.7	115.5	116.9	118.0	119.0	119.9	120.6	121.4
142	105.1	107.2	108.5	110.2	112.7	115.5	117.4	118.7	119.9	120.9	121.8	122.5	123.3
144	106.9	109.0	110.2	112.0	114.5	117.4	119.2	120.6	121.8	122.8	123.6	124.4	125.2
146	108.6	110.7	112.0	113.8	116.3	119.2	121.1	122.5	123.6	124.6	125.5	126.3	127.1
148	110.4	112.5	113.8	115.5	118.1	121.0	122.9	124.3	125.5	126.5	127.4	128.2	129.0
150	112.1	114.2	115.6	117.3	119.9	122.9	124.8	126.2	127.4	128.4	129.3	130.1	130.9
152	113.8	116.0	117.3	119.1	121.8	124.7	126.6	128.1	129.3	130.3	131.2	132.0	132.8
154	115.6	117.8	119.1	120.9	123.6	126.5	128.5	129.9	131.2	132.2	133.1	133.9	134.7
156	117.3	119.5	120.9	122.7	125.4	128.4	130.3	131.8	133.0	134.1	135.0	135.9	136.6
158	119.1	121.3	122.7	124.5	127.2	130.2	132.2	133.7	134.9	136.0	136.9	137.8	138.5
160	120.8	123.1	124.4	126.3	129.0	132.1	134.0	135.6	136.8	137.9	138.8	139.7	140.4
162	122.6	124.8	126.2	128.1	130.8	133.9	135.9	137.4	138.7	139.8	140.7	141.6	142.4
164	124.3	126.6	128.0	129.9	132.7	135.8	137.8	139.3	140.6	141.7	142.6	143.5	144.3
166	126.1	128.4	129.8	131.7	134.5	137.6	139.6	141.2	142.5	143.5	144.5	145.4	146.2
168	127.9	130.2	131.6	133.5	136.3	139.4	141.5	143.1	144.3	145.4	146.4	147.3	148.1
170	129.6	131.9	133.4	135.3	138.1	141.3	143.4	144.9	146.2	147.3	148.3	149.2	150.0
172	131.4	133.7	135.2	137.1	139.9	143.1	145.2	146.8	148.1	149.2	150.2	151.1	151.9
174	133.1	135.5	136.9	138.9	141.8	145.0	147.1	148.7	150.0	151.1	152.1	153.0	153.9
176	134.9	137.3	138.7	140.7	143.6	146.9	149.0	150.6	151.9	153.0	154.0	155.0	155.8
178	136.7	139.0	140.5	142.5	145.4	148.7	150.8	152.4	153.8	154.9	156.0	156.9	157.7
180	138.4	140.8	142.3	144.3	147.3	150.6	152.7	154.3	155.7	156.8	157.9	158.8	159.6
182	140.2	142.6	144.1	146.1	149.1	152.4	154.6	156.2	157.6	158.7	159.8	160.7	161.6
184	142.0	144.4	145.9	147.9	150.9	154.3	156.4	158.1	159.5	160.6	161.7	162.6	163.5
186	143.7	146.2	147.7	149.8	152.8	156.1	158.3	160.0	161.4	162.5	163.6	164.5	165.4
188	145.5	148.0	149.5	151.6	154.6	158.0	160.2	161.9	163.3	164.4	165.5	166.5	167.3
190	147.3	149.8	151.3	153.4	156.4	159.8	162.1	163.8	165.2	166.4	167.4	168.4	169.3
192	149.1	151.6	153.1	155.2	158.3	161.7	163.9	165.6	167.0	168.3	169.3	170.3	171.2
194	150.8	153.4	154.9	157.0	160.1	163.6	165.8	167.5	168.9	170.2	171.2	172.2	173.1
196	152.6	155.2	156.7	158.8	161.9	165.4	167.7	169.4	170.8	172.1	173.2	174.1	175.0
198	154.4	156.9	158.5	160.7	163.8	167.3	169.6	171.3	172.7	174.0	175.1	176.1	177.0
200	156.2	158.7	160.3	162.5	165.6	169.2	171.4	173.2	174.6	175.9	177.0	178.0	178.9
N	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%
	B												

B													N
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	
84.1	85.0	86.2	88.0	90.8	95.2	99.0	104.1	112.3	120.6	139.7	164.3	198.0	100
85.9	86.9	88.1	89.9	92.8	97.3	101.1	106.3	114.6	123.1	142.6	167.6	202.0	102
87.8	88.8	90.1	91.9	94.8	99.3	103.2	108.5	116.9	125.6	145.4	170.9	206.0	104
89.7	90.7	92.0	93.8	96.7	101.4	105.3	110.7	119.3	128.1	148.3	174.2	210.0	106
91.6	92.6	93.9	95.7	98.7	103.4	107.4	112.9	121.6	130.6	151.1	177.6	214.0	108
93.5	94.5	95.8	97.7	100.7	105.5	109.5	115.1	124.0	133.1	154.0	180.9	218.0	110
95.4	96.4	97.7	99.6	102.7	107.5	111.7	117.3	126.3	135.6	156.9	184.2	222.0	112
97.3	98.3	99.7	101.6	104.7	109.6	113.8	119.5	128.6	138.1	159.7	187.6	226.0	114
99.2	100.2	101.6	103.5	106.7	111.7	115.9	121.7	131.0	140.6	162.6	190.9	230.0	116
101.1	102.1	103.5	105.5	108.7	113.7	118.0	123.9	133.3	143.1	165.4	194.2	234.0	118
103.0	104.0	105.4	107.4	110.7	115.8	120.1	126.1	135.7	145.6	168.3	197.6	238.0	120
104.9	105.9	107.4	109.4	112.6	117.8	122.2	128.3	138.0	148.1	171.1	200.9	242.0	122
106.8	107.9	109.3	111.3	114.6	119.9	124.4	130.5	140.3	150.6	174.0	204.2	246.0	124
108.7	109.8	111.2	113.3	116.6	121.9	126.5	132.7	142.7	153.0	176.8	207.6	250.0	126
110.6	111.7	113.2	115.2	118.6	124.0	128.6	134.9	145.0	155.5	179.7	210.9	254.0	128
112.5	113.6	115.1	117.2	120.6	126.1	130.7	137.1	147.4	158.0	182.5	214.2	258.0	130
114.4	115.5	117.0	119.1	122.6	128.1	132.8	139.3	149.7	160.5	185.4	217.6	262.0	132
116.3	117.4	119.0	121.1	124.6	130.2	134.9	141.5	152.0	163.0	188.3	220.9	266.0	134
118.2	119.4	120.9	123.1	126.6	132.3	137.1	143.7	154.4	165.5	191.1	224.2	270.0	136
120.1	121.3	122.8	125.0	128.6	134.3	139.2	145.9	156.7	168.0	194.0	227.6	274.0	138
122.0	123.2	124.8	127.0	130.6	136.4	141.3	148.1	159.1	170.5	196.8	230.9	278.0	140
123.9	125.1	126.7	128.9	132.6	138.4	143.4	150.3	161.4	173.0	199.7	234.2	282.0	142
125.8	127.0	128.6	130.9	134.6	140.5	145.6	152.5	163.8	175.5	202.5	237.6	286.0	144
127.7	129.0	130.6	132.9	136.6	142.6	147.7	154.7	166.1	178.0	205.4	240.9	290.0	146
129.7	130.9	132.5	134.8	138.6	144.6	149.8	156.9	168.5	180.5	208.2	244.2	294.0	148
131.6	132.8	134.5	136.8	140.6	146.7	151.9	159.1	170.8	183.0	211.1	247.6	298.0	150
133.5	134.8	136.4	138.8	142.6	148.8	154.0	161.3	173.1	185.5	214.0	250.9	302.0	152
135.4	136.7	138.4	140.7	144.6	150.8	156.2	163.5	175.5	188.0	216.8	254.2	306.0	154
137.3	138.6	140.3	142.7	146.6	152.9	158.3	165.7	177.8	190.5	219.7	257.6	310.0	156
139.2	140.5	142.3	144.7	148.6	155.0	160.4	167.9	180.2	193.0	222.5	260.9	314.0	158
141.2	142.5	144.2	146.6	150.6	157.0	162.5	170.2	182.5	195.5	225.4	264.2	318.0	160
143.1	144.4	146.1	148.6	152.7	159.1	164.7	172.4	184.9	198.0	228.2	267.6	322.0	162
145.0	146.3	148.1	150.6	154.7	161.2	166.8	174.6	187.2	200.4	231.1	270.9	326.0	164
146.9	148.3	150.0	152.6	156.7	163.3	168.9	176.8	189.6	202.9	233.9	274.2	330.0	166
148.9	150.2	152.0	154.5	158.7	165.3	171.0	179.0	191.9	205.4	236.8	277.6	334.0	168
150.8	152.1	153.9	156.5	160.7	167.4	173.2	181.2	194.2	207.9	239.7	280.9	338.0	170
152.7	154.1	155.9	158.5	162.7	169.5	175.3	183.4	196.6	210.4	242.5	284.2	342.0	172
154.6	156.0	157.8	160.4	164.7	171.5	177.4	185.6	198.9	212.9	245.4	287.6	346.0	174
156.6	158.0	159.8	162.4	166.7	173.6	179.6	187.8	201.3	215.4	248.2	290.9	350.0	176
158.5	159.9	161.8	164.4	168.7	175.7	181.7	190.0	203.6	217.9	251.1	294.2	354.0	178
160.4	161.8	163.7	166.4	170.7	177.8	183.8	192.2	206.0	220.4	253.9	297.5	358.0	180
162.3	163.8	165.7	168.3	172.8	179.8	185.9	194.4	208.3	222.9	256.8	300.9	362.0	182
164.3	165.7	167.6	170.3	174.8	181.9	188.1	196.6	210.7	225.4	259.6	304.2	366.0	184
166.2	167.7	169.6	172.3	176.8	184.0	190.2	198.9	213.0	227.9	262.5	307.5	370.0	186
168.1	169.6	171.5	174.3	178.8	186.1	192.3	201.1	215.4	230.4	265.4	310.9	374.0	188
170.1	171.5	173.5	176.3	180.8	188.1	194.5	203.3	217.7	232.9	268.2	314.2	378.0	190
172.0	173.5	175.4	178.2	182.8	190.2	196.6	205.5	220.1	235.4	271.1	317.5	382.0	192
173.9	175.4	177.4	180.2	184.8	192.3	198.7	207.7	222.4	237.9	273.9	320.9	386.0	194
175.9	177.4	179.4	182.2	186.9	194.4	200.8	209.9	224.8	240.4	276.8	324.2	390.0	196
177.8	179.3	181.3	184.2	188.9	196.4	203.0	212.1	227.1	242.9	279.6	327.5	394.0	198
179.7	181.3	183.3	186.2	190.9	198.5	205.1	214.3	229.4	245.4	282.5	330.9	398.0	200
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	N
B													

N	B												N
	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	
200	156.2	158.7	160.3	162.5	165.6	169.2	171.4	173.2	174.6	175.9	177.0	178.0	178.9	200
202	158.0	160.5	162.1	164.3	167.5	171.0	173.3	175.1	176.5	177.8	178.9	179.9	180.8	202
204	159.7	162.3	164.0	166.1	169.3	172.9	175.2	177.0	178.4	179.7	180.8	181.8	182.8	204
206	161.5	164.1	165.8	167.9	171.2	174.8	177.1	178.9	180.4	181.6	182.7	183.8	184.7	206
208	163.3	165.9	167.6	169.8	173.0	176.6	179.0	180.8	182.3	183.5	184.7	185.7	186.6	208
210	165.1	167.7	169.4	171.6	174.8	178.5	180.9	182.7	184.2	185.4	186.6	187.6	188.6	210
212	166.9	169.5	171.2	173.4	176.7	180.4	182.7	184.6	186.1	187.4	188.5	189.5	190.5	212
214	168.7	171.3	173.0	175.2	178.5	182.2	184.6	186.5	188.0	189.3	190.4	191.5	192.4	214
216	170.5	173.2	174.8	177.1	180.4	184.1	186.5	188.4	189.9	191.2	192.3	193.4	194.4	216
218	172.3	175.0	176.6	178.9	182.2	186.0	188.4	190.2	191.8	193.1	194.3	195.3	196.3	218
220	174.0	176.8	178.5	180.7	184.1	187.8	190.3	192.1	193.7	195.0	196.2	197.2	198.2	220
222	175.8	178.6	180.3	182.6	185.9	189.7	192.2	194.0	195.6	196.9	198.1	199.2	200.2	222
224	177.6	180.4	182.1	184.4	187.8	191.6	194.1	195.9	197.5	198.8	200.0	201.1	202.1	224
226	179.4	182.2	183.9	186.2	189.6	193.5	195.9	197.8	199.4	200.8	202.0	203.0	204.0	226
228	181.2	184.0	185.7	188.1	191.5	195.3	197.8	199.7	201.3	202.7	203.9	205.0	206.0	228
230	183.0	185.8	187.6	189.9	193.3	197.2	199.7	201.6	203.2	204.6	205.8	206.9	207.9	230
232	184.8	187.6	189.4	191.7	195.2	199.1	201.6	203.5	205.1	206.5	207.7	208.8	209.8	232
234	186.6	189.4	191.2	193.6	197.1	201.0	203.5	205.4	207.1	208.4	209.7	210.8	211.8	234
236	188.4	191.3	193.0	195.4	198.9	202.8	205.4	207.4	209.0	210.4	211.6	212.7	213.7	236
238	190.2	193.1	194.9	197.2	200.8	204.7	207.3	209.3	210.9	212.3	213.5	214.6	215.7	238
240	192.0	194.9	196.7	199.1	202.6	206.6	209.2	211.2	212.8	214.2	215.4	216.6	217.6	240
242	193.8	196.7	198.5	200.9	204.5	208.5	211.1	213.1	214.7	216.1	217.4	218.5	219.5	242
244	195.6	198.5	200.3	202.8	206.3	210.4	213.0	215.0	216.6	218.0	219.3	220.4	221.5	244
246	197.4	200.3	202.2	204.6	208.2	212.2	214.9	216.9	218.5	220.0	221.2	222.4	223.4	246
248	199.2	202.2	204.0	206.4	210.1	214.1	216.8	218.8	220.4	221.9	223.2	224.3	225.4	248
250	201.0	204.0	205.8	208.3	211.9	216.0	218.7	220.7	222.4	223.8	225.1	226.2	227.3	250
	.908	*.914*	*.920*	*.926*	*.934*	*.944*	*.950*	*.956*	*.960*	*.964*	*.968*	*.972*	*.974*	
300	246.4	249.7	251.8	254.6	258.6	263.2	266.2	268.5	270.4	272.0	273.5	274.8	276.0	300
	.918	*.924*	*.928*	*.932*	*.942*	*.952*	*.958*	*.962*	*.966*	*.970*	*.972*	*.976*	*.978*	
350	292.3	295.9	298.2	301.2	305.7	310.8	314.1	316.6	318.7	320.5	322.1	323.6	324.9	350
	.922	*.928*	*.932*	*.938*	*.946*	*.954*	*.960*	*.966*	*.970*	*.972*	*.976*	*.978*	*.982*	
400	338.4	342.3	344.8	348.1	353.0	358.5	362.1	364.9	367.2	369.1	370.9	372.5	374.0	400
	.928	*.934*	*.938*	*.942*	*.950*	*.958*	*.964*	*.968*	*.972*	*.976*	*.978*	*.982*	*.984*	
450	384.8	389.0	391.7	395.2	400.5	406.4	410.3	413.3	415.8	417.9	419.8	421.6	423.2	450
	.932	*.938*	*.942*	*.946*	*.954*	*.962*	*.968*	*.972*	*.974*	*.978*	*.982*	*.982*	*.984*	
500	431.4	435.9	438.8	442.5	448.2	454.5	458.7	461.9	464.5	466.8	468.9	470.7	472.4	500
	.938	*.943*	*.946*	*.951*	*.957*	*.965*	*.970*	*.974*	*.978*	*.981*	*.983*	*.986*	*.989*	
600	525.2	530.2	533.4	537.6	543.9	551.0	555.7	559.3	562.3	564.9	567.2	569.3	571.3	600
	.943	*.948*	*.951*	*.956*	*.962*	*.969*	*.974*	*.978*	*.981*	*.984*	*.986*	*.989*	*.990*	
700	619.5	625.0	628.5	633.2	640.1	647.9	653.1	657.1	660.4	663.3	665.8	668.2	670.3	700
	.948	*.953*	*.955*	*.959*	*.965*	*.972*	*.976*	*.980*	*.983*	*.985*	*.989*	*.990*	*.993*	
800	714.3	720.3	724.0	729.1	736.6	745.1	750.7	755.1	758.7	761.8	764.7	767.2	769.6	800
	.951	*.955*	*.959*	*.962*	*.967*	*.974*	*.979*	*.982*	*.985*	*.988*	*.990*	*.993*	*.994*	
900	809.4	815.8	819.9	825.3	833.3	842.5	848.6	853.3	857.2	860.6	863.7	866.5	869.0	900
	.954	*.959*	*.961*	*.964*	*.970*	*.976*	*.980*	*.984*	*.987*	*.989*	*.991*	*.993*	*.996*	
1000	904.8	911.7	916.0	921.7	930.3	940.1	946.6	951.7	955.9	959.5	962.8	965.8	968.6	1000
	.962	*.963*	*.960*	*.963*	*.977*	*.979*	*.984*	*.983*	*.991*	*.995*	*.992*	*.992*	*.994*	
1100	1001.	1008.	1012.	1018.	1028.	1038.	1045.	1050.	1055.	1059.	1062.	1065.	1068.	1100
N	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	N
	B													

N	B												N
	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	
200	179.7	181.3	183.3	186.2	190.9	198.5	205.1	214.3	229.4	245.4	282.5	330.9	398.0	200
202	181.7	183.2	185.2	188.1	192.9	200.6	207.2	216.5	231.8	247.9	285.4	334.2	402.0	202
204	183.6	185.2	187.2	190.1	194.9	202.7	209.4	218.7	234.1	250.4	288.2	337.5	406.0	204
206	185.5	187.1	189.2	192.1	196.9	204.7	211.5	221.0	236.5	252.9	291.1	340.9	410.0	206
208	187.5	189.1	191.1	194.1	199.0	206.8	213.6	223.2	238.8	255.4	293.9	344.2	414.0	208
210	189.4	191.0	193.1	196.1	201.0	208.9	215.8	225.4	241.2	257.9	296.8	347.5	418.0	210
212	191.4	193.0	195.1	198.1	203.0	211.0	217.9	227.6	243.5	260.4	299.6	350.9	422.0	212
214	193.3	194.9	197.0	200.0	205.0	213.0	220.0	229.8	245.9	262.9	302.5	354.2	426.0	214
216	195.2	196.9	199.0	202.0	207.0	215.1	222.2	232.0	248.2	265.4	305.3	357.5	430.0	216
218	197.2	198.8	201.0	204.0	209.1	217.2	224.3	234.2	250.6	267.9	308.2	360.9	434.0	218
220	199.1	200.8	202.9	206.0	211.1	219.3	226.4	236.4	252.9	270.4	311.1	364.2	438.0	220
222	201.1	202.7	204.9	208.0	213.1	221.4	228.6	238.6	255.3	272.9	313.9	367.5	442.0	222
224	203.0	204.7	206.8	210.0	215.1	223.4	230.7	240.9	257.6	275.4	316.8	370.9	446.0	224
226	204.9	206.6	208.8	212.0	217.1	225.5	232.8	243.1	260.0	277.8	319.6	374.2	450.0	226
228	206.9	208.6	210.8	213.9	219.2	227.6	235.0	245.3	262.3	280.3	322.5	377.5	454.0	228
230	208.8	210.5	212.8	215.9	221.2	229.7	237.1	247.5	264.7	282.8	325.3	380.9	458.0	230
232	210.8	212.5	214.7	217.9	223.2	231.8	239.2	249.7	267.0	285.3	328.2	384.2	462.0	232
234	212.7	214.4	216.7	219.9	225.2	233.8	241.4	251.9	269.4	287.8	331.1	387.5	466.0	234
236	214.7	216.4	218.7	221.9	227.2	235.9	243.5	254.1	271.7	290.3	333.9	390.9	470.0	236
238	216.6	218.3	220.6	223.9	229.3	238.0	245.6	256.3	274.1	292.8	336.8	394.2	474.0	238
240	218.6	220.3	222.6	225.9	231.3	240.1	247.8	258.6	276.4	295.3	339.6	397.5	478.0	240
242	220.5	222.3	224.6	227.9	233.3	242.2	249.9	260.8	278.8	297.8	342.5	400.9	482.0	242
244	222.5	224.2	226.5	229.9	235.3	244.3	252.0	263.0	281.1	300.3	345.3	404.2	486.0	244
246	224.4	226.2	228.5	231.8	237.4	246.3	254.2	265.2	283.4	302.8	348.2	407.5	490.0	246
248	226.3	228.1	230.5	233.8	239.4	248.4	256.3	267.4	285.8	305.3	351.0	410.9	494.0	248
250	228.3	230.1	232.5	235.8	241.4	250.5	258.4	269.6	288.1	307.8	353.9	414.2	498.0	250
	.976	*.982*	*.988*	*.998*	*1.014*	*1.042*	*1.070*	*1.108*	*1.176*	*1.250*	*1.428*	*1.666*	*2.000*	
300	277.1	279.2	281.9	285.7	292.1	302.6	311.9	325.0	346.9	370.3	425.3	497.5	598.0	300
	.982	*.984*	*.990*	*1.000*	*1.016*	*1.044*	*1.070*	*1.108*	*1.174*	*1.248*	*1.428*	*1.668*	*2.000*	
350	326.2	328.4	331.4	335.7	342.9	354.8	365.4	380.4	405.6	432.7	496.7	580.9	698.0	350
	.982	*.988*	*.994*	*1.004*	*1.020*	*1.046*	*1.070*	*1.108*	*1.176*	*1.250*	*1.430*	*1.666*	*2.000*	
400	375.3	377.8	381.1	385.9	393.9	407.1	418.9	435.8	464.4	495.2	568.2	664.2	798.0	400
	.986	*.990*	*.996*	*1.004*	*1.018*	*1.046*	*1.072*	*1.110*	*1.176*	*1.250*	*1.428*	*1.666*	*2.000*	
450	424.6	427.3	430.9	436.1	444.8	459.4	472.5	491.3	523.2	557.7	639.6	747.5	898.0	450
	.988	*.994*	*.998*	*1.006*	*1.022*	*1.048*	*1.070*	*1.108*	*1.176*	*1.250*	*1.428*	*1.668*	*2.000*	
500	474.0	477.0	480.8	486.4	495.9	511.8	526.0	546.7	582.0	620.2	711.0	830.9	998.0	500
	.991	*.994*	*1.000*	*1.008*	*1.022*	*1.047*	*1.073*	*1.110*	*1.176*	*1.249*	*1.429*	*1.666*	*2.000*	
600	573.1	576.4	580.8	587.2	598.1	616.5	633.3	657.7	699.6	745.1	853.9	997.5	1198.	600
	.993	*.997*	*1.002*	*1.010*	*1.024*	*1.049*	*1.073*	*1.110*	*1.176*	*1.250*	*1.428*	*1.665*	*2.00*	
700	672.4	676.1	681.0	688.2	700.5	721.4	740.6	768.7	817.2	870.1	996.7	1164.	1398.	700
	.994	*.998*	*1.004*	*1.011*	*1.025*	*1.050*	*1.073*	*1.110*	*1.176*	*1.250*	*1.433*	*1.67*	*2.00*	
800	771.8	775.9	781.4	789.3	803.0	826.4	847.9	879.7	934.8	995.1	1140.	1331.	1598.	800
	.997	*1.000*	*1.004*	*1.013*	*1.025*	*1.050*	*1.074*	*1.111*	*1.172*	*1.249*	*1.42*	*1.67*	*2.00*	
900	871.5	875.9	881.8	890.6	905.5	931.4	955.3	990.8	1052.	1120.	1282.	1498.	1798.	900
	.997	*1.001*	*1.006*	*1.013*	*1.025*	*1.046*	*1.077*	*1.112*	*1.18*	*1.25*	*1.43*	*1.66*	*2.00*	
1000	971.2	976.0	982.4	991.9	1008.	1036.	1063.	1102.	1170.	1245.	1425.	1664.	1998.	1000
	.998	*1.000*	*1.006*	*1.011*	*1.03*	*1.05*	*1.07*	*1.11*	*1.18*	*1.25*	*1.43*	*1.67*	*2.00*	
1100	1071.	1076.	1083.	1093.	1111.	1141.	1170.	1213.	1288.	1370.	1568.	1831.	2198.	1100
N	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	N
	B													

2.6 Tabelas de dimensionamento para acessibilidade limitada

Número infinito de fontes de tráfego

Para

$B = 0{,}1\,\%,\ 0{,}2\,\%,\ 0{,}3\,\%,\ 0{,}4\,\%,\ 0{,}5\,\%,\ 0{,}6\,\%,\ 0{,}7\,\%,\ 0{,}8\,\%,\ 0{,}9\,\%,$
$1{,}0\,\%,\ 1{,}2\,\%,\ 1{,}5\,\%,\ 2\,\%,\ 3\,\%,\ 5\,\%,$
$10\,\%,\ 20\,\%,\ 30\,\%,\ 40\,\%,\ 50\,\%$

Para as fórmulas de interpolação e extrapolação referentes à faixa de $N > 250$ troncos de saída, veja a Sec. 2.3.

Significado:

A Carga oferecida em Erl
B Perda
k Acessibilidade
N Número de tronco de saída

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.0458															
3	.0776	.194														
4	.110	.292	.439													
5	.137	.391	.608	.762												
6	.164	.490	.782	.995	1.15											
7	.192	.588	.958	1.24	1.43	1.58										
8	.219	.684	1.13	1.48	1.73	1.91	2.05									
9	.247	.780	1.31	1.73	2.03	2.26	2.43	2.56								
10	.274	.867	1.48	1.97	2.34	2.61	2.81	2.97	3.09							
11	.302	.953	1.66	2.22	2.65	2.96	3.20	3.38	3.53	3.65						
12	.329	1.04	1.83	2.47	2.96	3.32	3.60	3.81	3.98	4.12	4.23					
13	.356	1.13	2.00	2.72	3.27	3.69	4.00	4.24	4.43	4.59	4.72	4.83				
14	.384	1.21	2.17	2.96	3.58	4.05	4.41	4.68	4.90	5.07	5.22	5.34	5.45			
15	.411	1.30	2.34	3.20	3.89	4.42	4.81	5.12	5.36	5.56	5.72	5.86	5.97	6.08		
16	.439	1.39	2.50	3.45	4.20	4.78	5.22	5.56	5.83	6.05	6.23	6.38	6.51	6.62	6.72	
17	.466	1.47	2.66	3.69	4.51	5.15	5.64	6.01	6.31	6.55	6.74	6.91	7.05	7.17	7.28	7.38
18	.493	1.56	2.82	3.93	4.82	5.51	6.05	6.46	6.79	7.05	7.26	7.44	7.60	7.73	7.85	7.95
19	.521	1.65	2.97	4.17	5.13	5.88	6.46	6.91	7.27	7.55	7.79	7.98	8.15	8.29	8.42	8.53
20	.548	1.73	3.13	4.41	5.44	6.25	6.87	7.36	7.75	8.06	8.31	8.53	8.71	8.86	9.00	9.12
21	.576	1.82	3.28	4.65	5.74	6.61	7.29	7.82	8.24	8.57	8.85	9.07	9.27	9.43	9.58	9.71
22	.603	1.91	3.44	4.89	6.05	6.97	7.70	8.27	8.72	9.08	9.38	9.62	9.83	10.0	10.2	10.3
23	.631	1.99	3.60	5.12	6.35	7.34	8.12	8.73	9.21	9.60	9.91	10.2	10.4	10.6	10.8	10.9
24	.658	2.08	3.75	5.36	6.66	7.70	8.53	9.18	9.70	10.1	10.5	10.7	11.0	11.2	11.4	11.5
25	.685	2.17	3.91	5.59	6.96	8.06	8.94	9.64	10.2	10.6	11.0	11.3	11.5	11.8	11.9	12.1
26	.713	2.25	4.07	5.82	7.26	8.42	9.35	10.1	10.7	11.2	11.5	11.9	12.1	12.4	12.5	12.7
27	.740	2.34	4.22	6.04	7.56	8.79	9.77	10.5	11.2	11.7	12.1	12.4	12.7	12.9	13.2	13.3
28	.768	2.43	4.38	6.26	7.86	9.15	10.2	11.0	11.7	12.2	12.6	13.0	13.3	13.5	13.8	14.0
29	.795	2.51	4.54	6.49	8.16	9.50	10.6	11.5	12.2	12.7	13.2	13.5	13.9	14.1	14.4	14.6
30	.822	2.60	4.69	6.71	8.46	9.86	11.0	11.9	12.6	13.2	13.7	14.1	14.4	14.7	15.0	15.2
31	.850	2.69	4.85	6.93	8.76	10.2	11.4	12.4	13.1	13.8	14.3	14.7	15.0	15.3	15.6	15.8
32	.877	2.77	5.00	7.16	9.05	10.6	11.8	12.8	13.6	14.3	14.8	15.3	15.6	15.9	16.2	16.4
33	.905	2.86	5.16	7.38	9.35	10.9	12.2	13.3	14.1	14.8	15.4	15.8	16.2	16.5	16.8	17.1
34	.932	2.95	5.32	7.61	9.65	11.3	12.6	13.7	14.6	15.3	15.9	16.4	16.8	17.1	17.4	17.7
35	.960	3.03	5.47	7.83	9.94	11.6	13.0	14.2	15.1	15.8	16.5	17.0	17.4	17.8	18.1	18.3
36	.987	3.12	5.63	8.05	10.2	12.0	13.4	14.6	15.6	16.4	17.0	17.5	18.0	18.4	18.7	19.0
37	1.01	3.21	5.79	8.28	10.5	12.4	13.9	15.1	16.1	16.9	17.6	18.1	18.6	19.0	19.3	19.6
38	1.04	3.29	5.94	8.50	10.8	12.7	14.3	15.5	16.6	17.4	18.1	18.7	19.2	19.6	19.9	20.2
39	1.07	3.38	6.10	8.72	11.1	13.1	14.7	16.0	17.1	17.9	18.7	19.3	19.8	20.2	20.6	20.9
40	1.10	3.47	6.26	8.95	11.4	13.4	15.1	16.4	17.5	18.5	19.2	19.8	20.4	20.8	21.2	21.5
41	1.12	3.55	6.41	9.17	11.7	13.8	15.5	16.9	18.0	19.0	19.8	20.4	21.0	21.4	21.8	22.2
42	1.15	3.64	6.57	9.40	11.9	14.1	15.9	17.3	18.5	19.5	20.3	21.0	21.6	22.0	22.4	22.8
43	1.18	3.73	6.73	9.62	12.2	14.5	16.3	17.8	19.0	20.0	20.9	21.6	22.1	22.6	23.1	23.4
44	1.21	3.81	6.88	9.84	12.5	14.8	16.7	18.2	19.5	20.5	21.4	22.1	22.7	23.3	23.7	24.1
45	1.23	3.90	7.04	10.1	12.8	15.2	17.1	18.7	20.0	21.1	22.0	22.7	23.3	23.9	24.3	24.7
46	1.26	3.99	7.19	10.3	13.1	15.5	17.5	19.1	20.5	21.6	22.5	23.3	23.9	24.5	25.0	25.4
47	1.29	4.07	7.35	10.5	13.4	15.8	17.9	19.6	20.9	22.1	23.1	23.9	24.5	25.1	25.6	26.0
48	1.32	4.16	7.51	10.7	13.6	16.2	18.3	20.0	21.4	22.6	23.6	24.4	25.1	25.7	26.2	26.7
49	1.34	4.25	7.66	11.0	13.9	16.5	18.7	20.4	21.9	23.1	24.2	25.0	25.7	26.3	26.9	27.3
50	1.37	4.33	7.82	11.2	14.2	16.9	19.1	20.9	22.4	23.7	24.7	25.6	26.3	27.0	27.5	27.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
1																.0010
2																.0458
3																.194
4																.439
5																.762
6																1.15
7																1.58
8																2.05
9																2.56
10																3.09
11																3.65
12																4.23
13																4.83
14																5.45
15																6.08
16																6.72
17																7.38
18	8.05															8.05
19	8.63	8.72														8.72
20	9.23	9.32	9.41													9.41
21	9.82	9.93	10.0	10.1												10.1
22	10.4	10.5	10.6	10.7	10.8											10.8
23	11.0	11.1	11.3	11.4	11.4											11.5
24	11.6	11.8	11.9	12.0	12.1											12.2
25	12.3	12.4	12.5	12.6	12.7	13.0										13.0
26	12.9	13.0	13.1	13.3	13.4	13.6										13.7
27	13.5	13.6	13.8	13.9	14.0	14.3										14.4
28	14.1	14.3	14.4	14.5	14.7	14.9										15.2
29	14.8	14.9	15.1	15.2	15.3	15.6										15.9
30	15.4	15.5	15.7	15.8	16.0	16.3	16.7									16.7
31	16.0	16.2	16.3	16.5	16.6	17.0	17.4									17.4
32	16.6	16.8	17.0	17.1	17.3	17.6	18.1									18.2
33	17.3	17.5	17.7	17.8	17.9	18.3	18.8									19.0
34	17.9	18.1	18.3	18.5	18.6	19.0	19.5									19.7
35	18.6	18.8	19.0	19.1	19.3	19.7	20.2	20.5								20.5
36	19.2	19.4	19.6	19.8	20.0	20.4	20.9	21.2								21.3
37	19.9	20.1	20.3	20.5	20.6	21.0	21.6	21.9								22.1
38	20.5	20.7	20.9	21.1	21.3	21.7	22.3	22.7								22.9
39	21.1	21.4	21.6	21.8	22.0	22.4	23.0	23.4								23.7
40	21.8	22.1	22.3	22.5	22.7	23.1	23.7	24.1	24.4							24.4
41	22.4	22.7	22.9	23.2	23.3	23.8	24.4	24.8	25.2							25.2
42	23.1	23.4	23.6	23.8	24.0	24.5	25.1	25.6	25.9							26.0
43	23.8	24.0	24.3	24.5	24.7	25.2	25.8	26.3	26.7							26.8
44	24.4	24.7	25.0	25.2	25.4	25.9	26.6	27.0	27.4							27.6
45	25.1	25.4	25.6	25.9	26.1	26.6	27.3	27.8	28.1	28.4						28.4
46	25.7	26.0	26.3	26.6	26.8	27.3	28.0	28.5	28.9	29.2						29.3
47	26.4	26.7	27.0	27.2	27.5	28.0	28.7	29.2	29.6	29.9						30.1
48	27.0	27.4	27.7	27.9	28.2	28.7	29.4	30.0	30.4	30.7						30.9
49	27.7	28.0	28.3	28.6	28.8	29.4	30.2	30.7	31.1	31.5						31.7
50	28.3	28.7	29.0	29.3	29.5	30.2	30.9	31.4	31.9	32.2	32.5					32.5
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	1.37	4.33	7.82	11.2	14.2	16.9	19.1	20.9	22.4	23.7	24.7	25.6	26.3	27.0	27.5	27.9
51	1.40	4.42	7.98	11.4	14.5	17.2	19.5	21.3	22.9	24.2	25.3	26.2	26.9	27.6	28.1	28.6
52	1.43	4.51	8.13	11.6	14.8	17.5	19.9	21.8	23.4	24.7	25.8	26.7	27.5	28.2	28.8	29.2
53	1.45	4.59	8.29	11.9	15.1	17.9	20.3	22.2	23.8	25.2	26.4	27.3	28.1	28.8	29.4	29.9
54	1.48	4.68	8.45	12.1	15.4	18.2	20.6	22.7	24.3	25.7	26.9	27.9	28.7	29.4	30.0	30.5
55	1.51	4.77	8.60	12.3	15.6	18.6	21.0	23.1	24.8	26.2	27.4	28.5	29.3	30.0	30.7	31.2
56	1.54	4.85	8.76	12.5	15.9	18.9	21.4	23.5	25.3	26.8	28.0	29.0	29.9	30.7	31.3	31.8
57	1.56	4.94	8.91	12.8	16.2	19.2	21.8	24.0	25.8	27.3	28.5	29.6	30.5	31.3	31.9	32.5
58	1.59	5.03	9.07	13.0	16.5	19.6	22.2	24.4	26.2	27.8	29.1	30.2	31.1	31.9	32.6	33.1
59	1.62	5.11	9.23	13.2	16.8	19.9	22.6	24.9	26.7	28.3	29.6	30.7	31.7	32.5	33.2	33.8
60	1.64	5.20	9.38	13.4	17.1	20.2	23.0	25.3	27.2	28.8	30.2	31.3	32.3	33.1	33.8	34.4
61	1.67	5.29	9.54	13.6	17.3	20.6	23.4	25.7	27.7	29.3	30.7	31.9	32.9	33.7	34.5	35.1
62	1.70	5.37	9.70	13.9	17.6	20.9	23.8	26.2	28.2	29.8	31.3	32.5	33.5	34.4	35.1	35.7
63	1.73	5.46	9.85	14.1	17.9	21.3	24.2	26.6	28.6	30.4	31.8	33.0	34.1	35.0	35.7	36.4
64	1.75	5.55	10.0	14.3	18.2	21.6	24.6	27.0	29.1	30.9	32.4	33.6	34.7	35.6	36.4	37.0
65	1.78	5.63	10.2	14.5	18.5	21.9	24.9	27.5	29.6	31.4	32.9	34.2	35.3	36.2	37.0	37.7
66	1.81	5.72	10.3	14.8	18.8	22.3	25.3	27.9	30.1	31.9	33.4	34.8	35.9	36.8	37.6	38.3
67	1.84	5.81	10.5	15.0	19.0	22.6	25.7	28.3	30.5	32.4	34.0	35.3	36.5	37.4	38.3	39.0
68	1.86	5.89	10.6	15.2	19.3	22.9	26.1	28.8	31.0	32.9	34.5	35.9	37.1	38.1	38.9	39.6
69	1.89	5.98	10.8	15.4	19.6	23.3	26.5	29.2	31.5	33.4	35.1	36.5	37.6	38.7	39.5	40.3
70	1.92	6.07	10.9	15.7	19.9	23.6	26.9	29.6	32.0	33.9	35.6	37.0	38.2	39.3	40.2	40.9
71	1.95	6.15	11.1	15.9	20.2	24.0	27.2	30.1	32.4	34.4	36.1	37.6	38.8	39.9	40.8	41.6
72	1.97	6.24	11.3	16.1	20.5	24.3	27.6	30.5	32.9	35.0	36.7	38.2	39.4	40.5	41.4	42.2
73	2.00	6.33	11.4	16.3	20.8	24.6	28.0	30.9	33.4	35.5	37.2	38.7	40.0	41.1	42.1	42.9
74	2.03	6.41	11.6	16.6	21.0	25.0	28.4	31.4	33.9	36.0	37.8	39.3	40.6	41.7	42.7	43.6
75	2.06	6.50	11.7	16.8	21.3	25.3	28.8	31.8	34.3	36.5	38.3	39.9	41.2	42.4	43.3	44.2
76	2.08	6.59	11.9	17.0	21.6	25.6	29.2	32.2	34.8	37.0	38.8	40.4	41.8	43.0	44.0	44.9
77	2.11	6.67	12.0	17.2	21.9	26.0	29.6	32.6	35.3	37.5	39.4	41.0	42.4	43.6	44.6	45.5
78	2.14	6.76	12.2	17.4	22.2	26.3	29.9	33.1	35.7	38.0	39.9	41.6	43.0	44.2	45.2	46.2
79	2.17	6.85	12.4	17.7	22.5	26.7	30.3	33.5	36.2	38.5	40.5	42.1	43.6	44.8	45.9	46.8
80	2.19	6.93	12.5	17.9	22.7	27.0	30.7	33.9	36.7	39.0	41.0	42.7	44.2	45.4	46.5	47.5
81	2.22	7.02	12.7	18.1	23.0	27.3	31.1	34.4	37.1	39.5	41.5	43.3	44.8	46.0	47.1	48.1
82	2.25	7.11	12.8	18.3	23.3	27.7	31.5	34.8	37.6	40.0	42.1	43.8	45.3	46.7	47.8	48.8
83	2.28	7.19	13.0	18.6	23.6	28.0	31.9	35.2	38.1	40.5	42.6	44.4	45.9	47.3	48.4	49.4
84	2.30	7.28	13.1	18.8	23.9	28.3	32.2	35.6	38.5	41.0	43.1	45.0	46.5	47.9	49.0	50.1
85	2.33	7.37	13.3	19.0	24.2	28.7	32.6	36.1	39.0	41.5	43.7	45.5	47.1	48.5	49.7	50.7
86	2.36	7.45	13.5	19.2	24.4	29.0	33.0	36.5	39.5	42.0	44.2	46.1	47.7	49.1	50.3	51.4
87	2.39	7.54	13.6	19.5	24.7	29.4	33.4	36.9	39.9	42.5	44.8	46.7	48.3	49.7	50.9	52.0
88	2.41	7.63	13.8	19.7	25.0	29.7	33.8	37.3	40.4	43.0	45.3	47.2	48.9	50.3	51.6	52.7
89	2.44	7.71	13.9	19.9	25.3	30.0	34.2	37.8	40.9	43.5	45.8	47.8	49.5	50.9	52.2	53.3
90	2.47	7.80	14.1	20.1	25.6	30.4	34.5	38.2	41.3	44.0	46.4	48.3	50.1	51.5	52.8	54.0
91	2.49	7.89	14.2	20.4	25.9	30.7	34.9	38.6	41.8	44.5	46.9	48.9	50.6	52.2	53.5	54.6
92	2.52	7.97	14.4	20.6	26.2	31.0	35.3	39.0	42.3	45.0	47.4	49.5	51.2	52.8	54.1	55.2
93	2.55	8.06	14.5	20.8	26.4	31.4	35.7	39.4	42.7	45.5	48.0	50.0	51.8	53.4	54.7	55.9
94	2.58	8.15	14.7	21.0	26.7	31.7	36.1	39.9	43.2	46.0	48.5	50.6	52.4	54.0	55.4	56.5
95	2.60	8.23	14.9	21.3	27.0	32.1	36.5	40.3	43.6	46.5	49.0	51.1	53.0	54.6	56.0	57.2
96	2.63	8.32	15.0	21.5	27.3	32.4	36.8	40.7	44.1	47.0	49.5	51.7	53.6	55.2	56.6	57.8
97	2.66	8.41	15.2	21.7	27.6	32.7	37.2	41.1	44.6	47.5	50.1	52.3	54.2	55.8	57.2	58.5
98	2.69	8.49	15.3	21.9	27.9	33.1	37.6	41.6	45.0	48.0	50.6	52.8	54.8	56.4	57.9	59.1
99	2.71	8.58	15.5	22.1	28.1	33.4	38.0	42.0	45.5	48.5	51.1	53.4	55.3	57.0	58.5	59.8
100	2.74	8.67	15.6	22.4	28.4	33.7	38.4	42.4	45.9	49.0	51.7	53.9	55.9	57.6	59.1	60.4
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110			
50	28.3	28.7	29.0	29.3	29.5	30.2	30.9	31.4	31.9	32.2	32.5						32.5	50
51	29.0	29.4	29.7	30.0	30.2	30.9	31.6	32.2	32.6	33.0	33.3						33.3	51
52	29.7	30.0	30.4	30.7	30.9	31.6	32.4	32.9	33.4	33.7	34.0						34.2	52
53	30.3	30.7	31.1	31.4	31.6	32.3	33.1	33.7	34.1	34.5	34.8						35.0	53
54	31.0	31.4	31.7	32.0	32.3	33.0	33.8	34.4	34.9	35.3	35.6						35.8	54
55	31.7	32.1	32.4	32.7	33.0	33.7	34.6	35.2	35.7	36.0	36.4						36.6	55
56	32.3	32.7	33.1	33.4	33.7	34.4	35.3	35.9	36.4	36.8	37.1						37.5	56
57	33.0	33.4	33.8	34.1	34.4	35.2	36.1	36.7	37.2	37.6	37.9						38.3	57
58	33.6	34.1	34.5	34.8	35.1	35.9	36.8	37.4	37.9	38.3	38.7						39.1	58
59	34.3	34.8	35.2	35.5	35.8	36.6	37.5	38.2	38.7	39.1	39.5						40.0	59
60	35.0	35.4	35.8	36.2	36.5	37.3	38.3	38.9	39.5	39.9	40.2	40.8					40.8	60
61	35.6	36.1	36.5	36.9	37.2	38.0	39.0	39.7	40.2	40.7	41.0	41.6					41.6	61
62	36.3	36.8	37.2	37.6	37.9	38.8	39.8	40.5	41.0	41.4	41.8	42.4					42.5	62
63	37.0	37.5	37.9	38.3	38.6	39.5	40.5	41.2	41.8	42.2	42.6	43.2					43.3	63
64	37.6	38.1	38.6	39.0	39.3	40.2	41.3	42.0	42.5	43.0	43.4	44.0					44.2	64
65	38.3	38.8	39.3	39.7	40.1	40.9	42.0	42.7	43.3	43.8	44.1	44.7					45.0	65
66	39.0	39.5	40.0	40.4	40.8	41.7	42.7	43.5	44.1	44.5	44.9	45.5					45.8	66
67	39.6	40.2	40.7	41.1	41.5	42.4	43.5	44.3	44.9	45.3	45.7	46.3					46.7	67
68	40.3	40.8	41.3	41.8	42.2	43.1	44.2	45.0	45.6	46.1	46.5	47.1					47.5	68
69	41.0	41.5	42.0	42.5	42.9	43.9	45.0	45.8	46.4	46.9	47.3	47.9					48.4	69
70	41.6	42.2	42.7	43.2	43.6	44.6	45.7	46.6	47.2	47.7	48.1	48.7	49.2				49.2	70
71	42.3	42.9	43.4	43.9	44.3	45.3	46.5	47.3	48.0	48.5	48.9	49.5	50.0				50.1	71
72	42.9	43.6	44.1	44.6	45.0	46.0	47.3	48.1	48.7	49.2	49.7	50.3	50.9				50.9	72
73	43.6	44.2	44.8	45.3	45.7	46.8	48.0	48.9	49.5	50.0	50.5	51.1	51.7				51.8	73
74	44.3	44.9	45.5	46.0	46.4	47.5	48.8	49.6	50.3	50.8	51.2	51.9	52.5				52.7	74
75	44.9	45.6	46.2	46.7	47.1	48.2	49.5	50.4	51.1	51.6	52.0	52.7	53.3				53.5	75
76	45.6	46.3	46.9	47.4	47.8	49.0	50.3	51.2	51.9	52.4	52.8	53.5	54.1				54.4	76
77	46.3	47.0	47.6	48.1	48.6	49.7	51.0	52.0	52.6	53.2	53.6	54.3	54.9				55.2	77
78	46.9	47.6	48.2	48.8	49.3	50.4	51.8	52.7	53.4	54.0	54.4	55.1	55.7				56.1	78
79	47.6	48.3	48.9	49.5	50.0	51.2	52.5	53.5	54.2	54.8	55.2	56.0	56.5				56.9	79
80	48.3	49.0	49.6	50.2	50.7	51.9	53.3	54.3	55.0	55.6	56.0	56.8	57.3				57.8	80
81	48.9	49.7	50.3	50.9	51.4	52.6	54.1	55.0	55.8	56.4	56.8	57.6	58.2				58.7	81
82	49.6	50.4	51.0	51.6	52.1	53.4	54.8	55.8	56.6	57.1	57.6	58.4	59.0				59.5	82
83	50.3	51.0	51.7	52.3	52.8	54.1	55.6	56.6	57.3	57.9	58.4	59.2	59.8				60.4	83
84	50.9	51.7	52.4	53.0	53.5	54.8	56.3	57.4	58.1	58.7	59.2	60.0	60.6				61.3	84
85	51.6	52.4	53.1	53.7	54.2	55.6	57.1	58.2	58.9	59.5	60.0	60.8	61.4				62.1	85
86	52.3	53.1	53.8	54.4	55.0	56.3	57.9	58.9	59.7	60.3	60.8	61.6	62.2				63.0	86
87	52.9	53.7	54.5	55.1	55.7	57.0	58.6	59.7	60.5	61.1	61.6	62.4	63.1				63.9	87
88	53.6	54.4	55.2	55.8	56.4	57.8	59.4	60.5	61.3	61.9	62.4	63.3	63.9				64.7	88
89	54.3	55.1	55.9	56.5	57.1	58.5	60.2	61.3	62.1	62.7	63.3	64.1	64.7				65.6	89
90	54.9	55.8	56.5	57.2	57.8	59.3	60.9	62.0	62.9	63.5	64.1	64.9	65.5	66.5			66.5	90
91	55.6	56.5	57.2	57.9	58.5	60.0	61.7	62.8	63.7	64.3	64.9	65.7	66.3	67.3			67.4	91
92	56.3	57.1	57.9	58.6	59.2	60.7	62.4	63.6	64.5	65.1	65.7	66.5	67.2	68.1			68.2	92
93	56.9	57.8	58.6	59.3	59.9	61.5	63.2	64.4	65.3	65.9	66.5	67.3	68.0	69.0			69.1	93
94	57.6	58.5	59.3	60.0	60.7	62.2	64.0	65.2	66.1	66.7	67.3	68.2	68.8	69.8			70.0	94
95	58.3	59.2	60.0	60.7	61.4	62.9	64.7	66.0	66.8	67.5	68.1	69.0	69.6	70.6			70.9	95
96	58.9	59.9	60.7	61.4	62.1	63.7	65.5	66.7	67.6	68.3	68.9	69.8	70.5	71.5			71.7	96
97	59.6	60.5	61.4	62.1	62.8	64.4	66.3	67.5	68.4	69.1	69.7	70.6	71.3	72.3			72.6	97
98	60.2	61.2	62.1	62.8	63.5	65.2	67.0	68.3	69.2	69.9	70.5	71.4	72.1	73.2			73.5	98
99	60.9	61.9	62.8	63.5	64.2	65.9	67.8	69.1	70.0	70.8	71.3	72.3	73.0	74.0			74.4	99
100	61.6	62.6	63.5	64.2	64.9	66.6	68.6	69.9	70.8	71.6	72.2	73.1	73.8	74.8			75.2	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		k=N	N
	k																	

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	2.74	8.67	15.6	22.4	28.4	33.7	38.4	42.4	45.9	49.0	51.7	53.9	55.9	57.6	59.1	60.4
102	2.80	8.84	16.0	22.8	29.0	34.4	39.1	43.3	46.9	50.0	52.7	55.1	57.1	58.8	60.4	61.7
104	2.85	9.01	16.3	23.3	29.6	35.1	39.9	44.1	47.8	51.0	53.8	56.2	58.3	60.1	61.6	63.0
106	2.91	9.19	16.6	23.7	30.1	35.8	40.7	45.0	48.7	52.0	54.8	57.3	59.4	61.3	62.9	64.3
108	2.96	9.36	16.9	24.2	30.7	36.4	41.4	45.8	49.6	53.0	55.9	58.4	60.6	62.5	64.1	65.6
110	3.02	9.53	17.2	24.6	31.3	37.1	42.2	46.7	50.5	54.0	56.9	59.5	61.7	63.7	65.4	66.9
112	3.07	9.71	17.5	25.1	31.8	37.8	43.0	47.5	51.5	54.9	58.0	60.6	62.9	64.9	66.6	68.2
114	3.13	9.88	17.8	25.5	32.4	38.5	43.8	48.4	52.4	55.9	59.0	61.7	64.1	66.1	67.9	69.5
116	3.18	10.1	18.1	25.9	33.0	39.1	44.5	49.2	53.3	56.9	60.1	62.8	65.2	67.3	69.1	70.7
118	3.24	10.2	18.5	26.4	33.5	39.8	45.3	50.1	54.2	57.9	61.1	63.9	66.4	68.5	70.4	72.0
120	3.29	10.4	18.8	26.8	34.1	40.5	46.1	50.9	55.1	58.9	62.2	65.0	67.5	69.7	71.6	73.3
122	3.34	10.6	19.1	27.3	34.7	41.2	46.8	51.7	56.1	59.9	63.2	66.1	68.7	70.9	72.9	74.6
124	3.40	10.7	19.4	27.7	35.2	41.8	47.6	52.6	57.0	60.8	64.2	67.2	69.9	72.1	74.1	75.9
126	3.45	10.9	19.7	28.2	35.8	42.5	48.4	53.4	57.9	61.8	65.3	68.3	71.0	73.3	75.4	77.2
128	3.51	11.1	20.0	28.6	36.4	43.2	49.1	54.3	58.8	62.8	66.3	69.4	72.2	74.5	76.6	78.4
130	3.56	11.3	20.3	29.1	37.0	43.9	49.9	55.1	59.7	63.8	67.4	70.5	73.3	75.7	77.9	79.7
132	3.62	11.4	20.6	29.5	37.5	44.5	50.7	56.0	60.7	64.8	68.4	71.6	74.5	76.9	79.1	81.0
134	3.67	11.6	21.0	30.0	38.1	45.2	51.4	56.8	61.6	65.7	69.4	72.7	75.6	78.1	80.3	82.3
136	3.73	11.8	21.3	30.4	38.7	45.9	52.2	57.7	62.5	66.7	70.5	73.8	76.8	79.3	81.6	83.6
138	3.78	12.0	21.6	30.9	39.2	46.6	53.0	58.5	63.4	67.7	71.5	74.9	77.9	80.5	82.8	84.8
140	3.84	12.1	21.9	31.3	39.8	47.2	53.7	59.4	64.3	68.7	72.5	76.0	79.0	81.7	84.0	86.1
142	3.89	12.3	22.2	31.8	40.4	47.9	54.5	60.2	65.2	69.7	73.6	77.1	80.2	82.9	85.3	87.4
144	3.95	12.5	22.5	32.2	40.9	48.6	55.3	61.1	66.2	70.6	74.6	78.1	81.3	84.1	86.5	88.7
146	4.00	12.7	22.8	32.7	41.5	49.3	56.0	61.9	67.1	71.6	75.6	79.2	82.4	85.3	87.7	89.9
148	4.06	12.8	23.1	33.1	42.1	49.9	56.8	62.8	68.0	72.6	76.7	80.3	83.6	86.5	89.0	91.2
150	4.11	13.0	23.5	33.6	42.6	50.6	57.6	63.6	68.9	73.6	77.7	81.4	84.7	87.6	90.2	92.5
152	4.17	13.2	23.8	34.0	43.2	51.3	58.3	64.5	69.8	74.6	78.8	82.5	85.8	88.8	91.4	93.7
154	4.22	13.3	24.1	34.4	43.8	52.0	59.1	65.3	70.8	75.6	79.8	83.6	86.9	90.0	92.7	95.0
156	4.28	13.5	24.4	34.9	44.3	52.6	59.9	66.2	71.7	76.5	80.8	84.7	88.1	91.2	93.9	96.3
158	4.33	13.7	24.7	35.3	44.9	53.3	60.6	67.0	72.6	77.5	81.9	85.7	89.2	92.3	95.1	97.5
160	4.39	13.9	25.0	35.8	45.5	54.0	61.4	67.9	73.5	78.5	82.9	86.8	90.3	93.5	96.3	98.8
162	4.44	14.0	25.3	36.2	46.1	54.7	62.2	68.7	74.4	79.5	83.9	87.9	91.5	94.7	97.5	100.1
164	4.50	14.2	25.6	36.7	46.6	55.3	62.9	69.6	75.4	80.5	85.0	89.0	92.6	95.8	98.8	101.3
166	4.55	14.4	26.0	37.1	47.2	56.0	63.7	70.4	76.3	81.4	86.0	90.1	93.7	97.0	100.0	102.6
168	4.61	14.6	26.3	37.6	47.8	56.7	64.5	71.3	77.2	82.4	87.0	91.2	94.8	98.2	101.2	103.9
170	4.66	14.7	26.6	38.0	48.3	57.4	65.2	72.1	78.1	83.4	88.1	92.2	96.0	99.3	102.4	105.1
172	4.72	14.9	26.9	38.5	48.9	58.0	66.0	73.0	79.0	84.4	89.1	93.3	97.1	100.5	103.6	106.4
174	4.77	15.1	27.2	38.9	49.5	58.7	66.8	73.8	79.9	85.4	90.2	94.4	98.2	101.7	104.8	107.6
176	4.83	15.3	27.5	39.4	50.0	59.4	67.5	74.7	80.9	86.3	91.2	95.5	99.4	102.8	106.0	108.8
178	4.88	15.4	27.8	39.8	50.6	60.1	68.3	75.5	81.8	87.3	92.2	96.6	100.5	104.0	107.2	110.1
180	4.93	15.6	28.2	40.3	51.2	60.7	69.1	76.3	82.7	88.3	93.3	97.7	101.6	105.2	108.4	111.3
182	4.99	15.8	28.5	40.7	51.7	61.4	69.8	77.2	83.6	89.3	94.3	98.8	102.8	106.3	109.6	112.5
184	5.04	15.9	28.8	41.2	52.3	62.1	70.6	78.0	84.5	90.3	95.3	99.8	103.9	107.5	110.8	113.8
186	5.10	16.1	29.1	41.6	52.9	62.8	71.4	78.9	85.5	91.3	96.4	100.9	105.0	108.7	112.0	115.0
188	5.15	16.3	29.4	42.1	53.4	63.4	72.2	79.7	86.4	92.2	97.4	102.0	106.1	109.8	113.2	116.2
190	5.21	16.5	29.7	42.5	54.0	64.1	72.9	80.6	87.3	93.2	98.4	103.1	107.3	111.0	114.4	117.5
192	5.26	16.6	30.0	42.9	54.6	64.8	73.7	81.4	88.2	94.2	99.5	104.2	108.4	112.2	115.6	118.7
194	5.32	16.8	30.3	43.4	55.1	65.5	74.5	82.3	89.1	95.2	100.5	105.3	109.5	113.4	116.8	120.0
196	5.37	17.0	30.7	43.8	55.7	66.1	75.2	83.1	90.1	96.2	101.6	106.4	110.7	114.5	118.0	121.2
198	5.43	17.2	31.0	44.3	56.3	66.8	76.0	84.0	91.0	97.1	102.6	107.4	111.8	115.7	119.2	122.4
200	5.48	17.3	31.3	44.7	56.9	67.5	76.8	84.8	91.9	98.1	103.6	108.5	112.9	116.9	120.4	123.7
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
100	61.6	62.6	63.5	64.2	64.9	66.6	68.6	69.9	70.8	71.6	72.2	73.1	73.8	74.8		75.2	100
102	62.9	63.9	64.8	65.7	66.4	68.1	70.1	71.4	72.4	73.2	73.8	74.7	75.4	76.5		77.0	102
104	64.2	65.3	66.2	67.1	67.8	69.6	71.6	73.0	74.0	74.8	75.4	76.4	77.1	78.2		78.8	104
106	65.5	66.6	67.6	68.5	69.2	71.1	73.2	74.6	75.6	76.4	77.0	78.0	78.8	79.9		80.5	106
108	66.9	68.0	69.0	69.9	70.7	72.6	74.7	76.2	77.2	78.0	78.7	79.7	80.4	81.5		82.3	108
110	68.2	69.3	70.4	71.3	72.1	74.0	76.3	77.7	78.8	79.6	80.3	81.3	82.1	83.2	84.1	84.1	110
112	69.5	70.7	71.7	72.7	73.5	75.5	77.8	79.3	80.4	81.3	81.9	83.0	83.8	84.9	85.8	85.8	112
114	70.8	72.1	73.1	74.1	74.9	77.0	79.3	80.9	82.0	82.9	83.6	84.6	85.4	86.6	87.5	87.6	114
116	72.2	73.4	74.5	75.5	76.4	78.5	80.9	82.5	83.6	84.5	85.2	86.3	87.1	88.3	89.2	89.4	116
118	73.5	74.8	75.9	76.9	77.8	80.0	82.4	84.1	85.3	86.2	86.9	88.0	88.8	90.0	90.9	91.2	118
120	74.8	76.1	77.3	78.3	79.2	81.4	84.0	85.7	86.9	87.8	88.5	89.6	90.5	91.7	92.6	93.0	120
122	76.1	77.5	78.6	79.7	80.6	82.9	85.5	87.2	88.5	89.4	90.2	91.3	92.1	93.4	94.3	94.7	122
124	77.4	78.8	80.0	81.1	82.1	84.4	87.1	88.8	90.1	91.0	91.8	93.0	93.8	95.1	96.0	96.5	124
126	78.8	80.2	81.4	82.5	83.5	85.9	88.6	90.4	91.7	92.7	93.5	94.6	95.5	96.8	97.7	98.3	126
128	80.1	81.5	82.8	83.9	84.9	87.4	90.2	92.0	93.3	94.3	95.1	96.3	97.2	98.5	99.4	100.1	128
130	81.4	82.8	84.1	85.3	86.3	88.9	91.7	93.6	94.9	96.0	96.8	98.0	98.9	100.2	101.2	101.9	130
132	82.7	84.2	85.5	86.7	87.8	90.3	93.3	95.2	96.6	97.6	98.4	99.7	100.6	101.9	102.9	103.7	132
134	84.0	85.5	86.9	88.1	89.2	91.8	94.8	96.8	98.2	99.2	100.1	101.3	102.3	103.6	104.6	105.5	134
136	85.3	86.9	88.3	89.5	90.6	93.3	96.3	98.4	99.8	100.9	101.7	103.0	104.0	105.3	106.3	107.3	136
138	86.6	88.2	89.6	90.9	92.0	94.8	97.9	100.0	101.4	102.5	103.4	104.7	105.6	107.0	108.0	109.1	138
140	87.9	89.6	91.0	92.3	93.5	96.3	99.4	101.5	103.0	104.2	105.0	106.4	107.3	108.7	109.8	110.9	140
142	89.3	90.9	92.4	93.7	94.9	97.7	101.0	103.1	104.7	105.8	106.7	108.0	109.0	110.5	111.5	112.7	142
144	90.6	92.3	93.8	95.1	96.3	99.2	102.5	104.7	106.3	107.4	108.4	109.7	110.7	112.2	113.2	114.5	144
146	91.9	93.6	95.1	96.5	97.7	100.7	104.1	106.3	107.9	109.1	110.0	111.4	112.4	113.9	114.9	116.3	146
148	93.2	94.9	96.5	97.9	99.1	102.2	105.6	107.9	109.5	110.7	111.7	113.1	114.1	115.6	116.7	118.1	148
150	94.5	96.3	97.9	99.3	100.6	103.7	107.2	109.5	111.2	112.4	113.4	114.8	115.8	117.3	118.4	119.9	150
152	95.8	97.6	99.2	100.7	102.0	105.1	108.8	111.1	112.8	114.0	115.0	116.5	117.5	119.1	120.1	121.8	152
154	97.1	98.9	100.6	102.1	103.4	106.6	110.3	112.7	114.4	115.7	116.7	118.2	119.2	120.8	121.9	123.6	154
156	98.4	100.3	102.0	103.5	104.8	108.1	111.9	114.3	116.0	117.3	118.4	119.9	120.9	122.5	123.6	125.4	156
158	99.7	101.6	103.3	104.9	106.2	109.6	113.4	115.9	117.7	119.0	120.0	121.5	122.7	124.2	125.3	127.2	158
160	101.0	102.9	104.7	106.2	107.6	111.1	115.0	117.5	119.3	120.6	121.7	123.2	124.4	126.0	127.1	129.0	160
162	102.3	104.3	106.1	107.6	109.1	112.5	116.5	119.1	120.9	122.3	123.4	124.9	126.1	127.7	128.8	130.8	162
164	103.6	105.6	107.4	109.0	110.5	114.0	118.1	120.7	122.6	124.0	125.0	126.6	127.8	129.4	130.6	132.7	164
166	104.9	106.9	108.8	110.4	111.9	115.5	119.6	122.3	124.2	125.6	126.7	128.3	129.5	131.1	132.3	134.5	166
168	106.2	108.3	110.1	111.8	113.3	117.0	121.2	123.9	125.8	127.3	128.4	130.0	131.2	132.9	134.1	136.3	168
170	107.5	109.6	111.5	113.2	114.7	118.5	122.7	125.5	127.5	128.9	130.1	131.7	132.9	134.6	135.8	138.1	170
172	108.8	110.9	112.9	114.6	116.1	119.9	124.3	127.1	129.1	130.6	131.7	133.4	134.6	136.3	137.5	139.9	172
174	110.1	112.3	114.2	116.0	117.5	121.4	125.8	128.7	130.7	132.2	133.4	135.1	136.3	138.1	139.3	141.8	174
176	111.4	113.6	115.6	117.4	119.0	122.9	127.4	130.3	132.4	133.9	135.1	136.8	138.1	139.8	141.0	143.6	176
178	112.7	114.9	116.9	118.7	120.4	124.4	128.9	131.9	134.0	135.6	136.8	138.5	139.8	141.5	142.8	145.4	178
180	114.0	116.2	118.3	120.1	121.8	125.8	130.5	133.5	135.6	137.2	138.4	140.2	141.5	143.3	144.5	147.3	180
182	115.2	117.6	119.6	121.5	123.2	127.3	132.0	135.1	137.3	138.9	140.1	141.9	143.2	145.0	146.3	149.1	182
184	116.5	118.9	121.0	122.9	124.6	128.8	133.6	136.7	138.9	140.5	141.8	143.6	144.9	146.8	148.0	150.9	184
186	117.8	120.2	122.4	124.3	126.0	130.3	135.1	138.3	140.6	142.2	143.5	145.3	146.7	148.5	149.8	152.8	186
188	119.0	121.5	123.7	125.7	127.4	131.7	136.7	139.9	142.2	143.9	145.2	147.0	148.4	150.2	151.5	154.6	188
190	120.3	122.9	125.1	127.0	128.8	133.2	138.2	141.5	143.8	145.5	146.8	148.7	150.1	152.0	153.3	156.4	190
192	121.6	124.2	126.4	128.4	130.2	134.7	139.8	143.1	145.5	147.2	148.5	150.5	151.8	153.7	155.1	158.3	192
194	122.8	125.5	127.8	129.8	131.6	136.1	141.3	144.7	147.1	148.9	150.2	152.2	153.6	155.5	156.8	160.1	194
196	124.1	126.7	129.1	131.2	133.0	137.6	142.9	146.3	148.8	150.5	151.9	153.9	155.3	157.2	158.6	161.9	196
198	125.4	128.0	130.5	132.6	134.4	139.1	144.4	147.9	150.4	152.2	153.6	155.6	157.0	159.0	160.3	163.8	198
200	126.6	129.3	131.8	133.9	135.8	140.6	146.0	149.6	152.0	153.9	155.3	157.3	158.7	160.7	162.1	165.6	200
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	5.48	17.3	31.3	44.7	56.9	67.5	76.8	84.8	91.9	98.1	103.6	108.5	112.9	116.9	120.4	123.7
202	5.54	17.5	31.6	45.2	57.4	68.2	77.5	85.7	92.8	99.1	104.7	109.6	114.0	118.0	121.6	124.9
204	5.59	17.7	31.9	45.6	58.0	68.8	78.3	86.5	93.7	100.1	105.7	110.7	115.2	119.2	122.8	126.1
206	5.65	17.9	32.2	46.1	58.6	69.5	79.1	87.4	94.7	101.1	106.7	111.8	116.3	120.4	124.0	127.4
208	5.70	18.0	32.5	46.5	59.1	70.2	79.8	88.2	95.6	102.0	107.8	112.9	117.4	121.5	125.2	128.6
210	5.76	18.2	32.8	47.0	59.7	70.9	80.6	89.1	96.5	103.0	108.8	114.0	118.6	122.7	126.5	129.9
212	5.81	18.4	33.2	47.4	60.3	71.5	81.4	89.9	97.4	104.0	109.8	115.0	119.7	123.9	127.7	131.1
214	5.87	18.5	33.5	47.9	60.8	72.2	82.1	90.8	98.3	105.0	110.9	116.1	120.8	125.0	128.9	132.3
216	5.92	18.7	33.8	48.3	61.4	72.9	82.9	91.6	99.2	106.0	111.9	117.2	121.9	126.2	130.1	133.6
218	5.98	18.9	34.1	48.8	62.0	73.6	83.7	92.5	100.2	106.9	113.0	118.3	123.1	127.4	131.3	134.8
220	6.03	19.1	34.4	49.2	62.5	74.2	84.4	93.3	101.1	107.9	114.0	119.4	124.2	128.5	132.5	136.0
222	6.09	19.2	34.7	49.7	63.1	74.9	85.2	94.2	102.0	108.9	115.0	120.5	125.3	129.7	133.7	137.3
224	6.14	19.4	35.0	50.1	63.7	75.6	86.0	95.0	102.9	109.9	116.1	121.6	126.5	130.9	134.9	138.5
226	6.20	19.6	35.3	50.6	64.2	76.3	86.7	95.9	103.8	110.9	117.1	122.6	127.6	132.1	136.1	139.7
228	6.25	19.8	35.7	51.0	64.8	76.9	87.5	96.7	104.8	111.9	118.1	123.7	128.7	133.2	137.3	141.0
230	6.31	19.9	36.0	51.4	65.4	77.6	88.3	97.6	105.7	112.8	119.2	124.8	129.9	134.4	138.5	142.2
232	6.36	20.1	36.3	51.9	66.0	78.3	89.0	98.4	106.6	113.8	120.2	125.9	131.0	135.6	139.7	143.5
234	6.42	20.3	36.6	52.3	66.5	79.0	89.8	99.3	107.5	114.8	121.2	127.0	132.1	136.7	140.9	144.7
236	6.47	20.5	36.9	52.8	67.1	79.6	90.6	100.1	108.4	115.8	122.3	128.1	133.2	137.9	142.1	145.9
238	6.53	20.6	37.2	53.2	67.7	80.3	91.3	101.0	109.4	116.8	123.3	129.1	134.4	139.1	143.3	147.2
240	6.58	20.8	37.5	53.7	68.2	81.0	92.1	101.8	110.3	117.7	124.4	130.2	135.5	140.2	144.5	148.4
242	6.63	21.0	37.8	54.1	68.8	81.7	92.9	102.6	111.2	118.7	125.4	131.3	136.6	141.4	145.7	149.6
244	6.69	21.1	38.2	54.6	69.4	82.3	93.6	103.5	112.1	119.7	126.4	132.4	137.8	142.6	146.9	150.9
246	6.74	21.3	38.5	55.0	69.9	83.0	94.4	104.3	113.0	120.7	127.5	133.5	138.9	143.7	148.1	152.1
248	6.80	21.5	38.8	55.5	70.5	83.7	95.2	105.2	113.9	121.7	128.5	134.6	140.0	144.9	149.3	153.4
250	6.85	21.7	39.1	55.9	71.1	84.4	95.9	106.0	114.9	122.6	129.5	135.7	141.1	146.1	150.5	154.6
	.027	*.086*	*.156*	*.224*	*.284*	*.336*	*.384*	*.424*	*.458*	*.492*	*.518*	*.542*	*.566*	*.584*	*.602*	*.618*
300	8.22	26.0	46.9	67.1	85.3	101.2	115.1	127.2	137.8	147.2	155.4	162.8	169.4	175.3	180.6	185.5
	.028	*.086*	*.156*	*.224*	*.284*	*.338*	*.384*	*.426*	*.460*	*.490*	*.518*	*.542*	*.564*	*.584*	*.604*	*.618*
350	9.60	30.3	54.7	78.3	99.5	118.1	134.3	148.5	160.8	171.7	181.3	189.9	197.6	204.5	210.8	216.4
	.028	*.088*	*.158*	*.224*	*.284*	*.338*	*.384*	*.424*	*.460*	*.490*	*.520*	*.544*	*.564*	*.584*	*.602*	*.618*
400	11.0	34.7	62.6	89.5	113.7	135.0	153.5	169.7	183.8	196.2	207.3	217.1	225.8	233.7	240.9	247.3
	.026	*.086*	*.156*	*.224*	*.284*	*.338*	*.384*	*.424*	*.460*	*.492*	*.518*	*.542*	*.566*	*.584*	*.602*	*.620*
450	12.3	39.0	70.4	100.7	127.9	151.9	172.7	190.9	206.8	220.8	233.2	244.2	254.1	262.9	271.0	278.3
	.028	*.086*	*.156*	*.222*	*.284*	*.336*	*.384*	*.424*	*.458*	*.490*	*.518*	*.542*	*.564*	*.586*	*.602*	*.618*
500	13.7	43.3	78.2	111.8	142.1	168.7	191.9	212.1	229.7	245.3	259.1	271.3	282.3	292.2	301.1	309.2
	.027	*.087*	*.156*	*.224*	*.285*	*.338*	*.384*	*.424*	*.460*	*.491*	*.518*	*.543*	*.564*	*.584*	*.602*	*.618*
600	16.4	52.0	93.8	134.2	170.6	202.5	230.3	254.5	275.7	294.4	310.9	325.6	338.7	350.6	361.3	371.0
	.028	*.087*	*.157*	*.224*	*.284*	*.337*	*.383*	*.424*	*.459*	*.490*	*.518*	*.542*	*.565*	*.584*	*.602*	*.618*
700	19.2	60.7	109.5	156.6	199.0	236.2	268.6	296.9	321.6	343.4	362.7	379.8	395.2	409.0	421.5	432.8
	.027	*.086*	*.156*	*.224*	*.284*	*.338*	*.384*	*.424*	*.460*	*.491*	*.518*	*.543*	*.565*	*.584*	*.602*	*.619*
800	21.9	69.3	125.1	179.0	227.4	270.0	307.0	339.3	367.6	392.5	414.5	434.1	451.7	467.4	481.7	494.7
	.028	*.087*	*.157*	*.223*	*.284*	*.337*	*.384*	*.424*	*.459*	*.490*	*.518*	*.543*	*.564*	*.585*	*.602*	*.618*
900	24.7	78.0	140.8	201.3	255.8	303.7	345.4	381.7	413.5	441.5	466.3	488.4	508.1	525.9	541.9	556.5
	.027	*.087*	*.156*	*.224*	*.285*	*.337*	*.384*	*.425*	*.460*	*.491*	*.518*	*.542*	*.565*	*.584*	*.602*	*.619*
1000	27.4	86.7	156.4	223.7	284.3	337.4	383.8	424.2	459.5	490.6	518.1	542.6	564.6	584.3	602.1	618.4
	.028	*.086*	*.156*	*.224*	*.284*	*.338*	*.384*	*.424*	*.459*	*.491*	*.518*	*.543*	*.564*	*.584*	*.603*	*.618*
1100	30.2	95.3	172.0	246.1	312.7	371.2	422.2	466.6	505.4	539.7	569.9	596.9	621.0	642.7	662.4	680.2
	.0274	*.0867*	*.1564*	*.2237*	*.2843*	*.3374*	*.3838*	*.4242*	*.4595*	*.4906*	*.5181*	*.5426*	*.5646*	*.5843*	*.6021*	*.6184*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
200	126.6	129.3	131.8	133.9	135.8	140.6	146.0	149.6	152.0	153.9	155.3	157.3	158.7	160.7	162.1	165.6	200
202	127.9	130.6	133.1	135.3	137.3	142.0	147.5	151.2	153.7	155.5	156.9	159.0	160.5	162.5	163.8	167.5	202
204	129.2	131.9	134.5	136.7	138.7	143.5	149.1	152.8	155.3	157.2	158.6	160.7	162.2	164.2	165.6	169.3	204
206	130.4	133.2	135.8	138.1	140.1	145.0	150.6	154.4	157.0	158.9	160.3	162.4	163.9	166.0	167.4	171.2	206
208	131.7	134.5	137.1	139.4	141.5	146.4	152.2	156.0	158.6	160.5	162.0	164.1	165.6	167.7	169.1	173.0	208
210	133.0	135.8	138.4	140.8	142.9	147.9	153.7	157.6	160.2	162.2	163.7	165.9	167.4	169.5	170.9	174.8	210
212	134.2	137.1	139.7	142.2	144.3	149.4	155.3	159.2	161.9	163.9	165.4	167.6	169.1	171.2	172.7	176.7	212
214	135.5	138.4	141.0	143.5	145.7	150.8	156.8	160.8	163.5	165.5	167.1	169.3	170.8	173.0	174.4	178.5	214
216	136.8	139.7	142.4	144.8	147.1	152.3	158.4	162.4	165.2	167.2	168.8	171.0	172.6	174.7	176.2	180.4	216
218	138.0	141.0	143.7	146.2	148.5	153.8	159.9	164.0	166.8	168.9	170.4	172.7	174.3	176.5	178.0	182.2	218
220	139.3	142.3	145.0	147.5	149.8	155.2	161.5	165.6	168.4	170.5	172.1	174.4	176.0	178.2	179.7	184.1	220
222	140.6	143.6	146.3	148.9	151.2	156.7	163.0	167.2	170.1	172.2	173.8	176.1	177.8	180.0	181.5	185.9	222
224	141.8	144.9	147.6	150.2	152.6	158.2	164.6	168.8	171.7	173.9	175.5	177.9	179.5	181.7	183.3	187.8	224
226	143.1	146.1	149.0	151.5	153.9	159.6	166.1	170.4	173.4	175.5	177.2	179.6	181.2	183.5	185.0	189.6	226
228	144.4	147.4	150.3	152.9	155.3	161.1	167.7	172.0	175.0	177.2	178.9	181.3	183.0	185.3	186.8	191.5	228
230	145.6	148.7	151.6	154.2	156.7	162.6	169.2	173.6	176.7	178.9	180.6	183.0	184.7	187.0	188.6	193.3	230
232	146.9	150.0	152.9	155.6	158.0	164.0	170.8	175.2	178.3	180.6	182.3	184.7	186.5	188.8	190.3	195.2	232
234	148.2	151.3	154.2	156.9	159.4	165.5	172.3	176.8	180.0	182.2	184.0	186.5	188.2	190.5	192.1	197.1	234
236	149.4	152.6	155.5	158.2	160.7	166.9	173.9	178.4	181.6	183.9	185.7	188.2	189.9	192.3	193.9	198.9	236
238	150.7	153.9	156.9	159.6	162.1	168.4	175.4	180.0	183.2	185.6	187.4	189.9	191.7	194.1	195.7	200.8	238
240	152.0	155.2	158.2	160.9	163.5	169.9	176.9	181.6	184.9	187.3	189.1	191.6	193.4	195.8	197.4	202.6	240
242	153.2	156.5	159.5	162.3	164.8	171.3	178.5	183.2	186.5	188.9	190.7	193.4	195.2	197.6	199.2	204.5	242
244	154.5	157.8	160.8	163.6	166.2	172.8	180.0	184.8	188.2	190.6	192.4	195.1	196.9	199.3	201.0	206.3	244
246	155.7	159.1	162.1	165.0	167.6	174.2	181.6	186.4	189.8	192.3	194.1	196.8	198.6	201.1	202.8	208.2	246
248	157.0	160.4	163.5	166.3	168.9	175.7	183.1	188.0	191.5	193.9	195.8	198.5	200.4	202.9	204.5	210.1	248
250	158.3	161.7	164.8	167.6	170.3	177.2	184.7	189.6	193.1	195.6	197.5	200.2	202.1	204.6	206.3	211.9	250
	.632	*.646*	*.658*	*.672*	*.680*	*.708*	*.768*	*.802*	*.822*	*.838*	*.850*	*.866*	*.874*	*.886*	*.892*	*.934*	
300	189.9	194.0	197.7	201.2	204.3	212.6	223.1	229.7	234.2	237.5	240.0	243.5	245.8	248.9	250.9	258.6	300
	.634	*.646*	*.660*	*.670*	*.682*	*.708*	*.744*	*.796*	*.822*	*.838*	*.850*	*.868*	*.880*	*.892*	*.900*	*.942*	
350	221.6	226.3	230.7	234.7	238.4	248.0	260.3	269.5	275.3	279.4	282.5	286.9	289.8	293.5	295.9	305.7	350
	.634	*.648*	*.658*	*.670*	*.682*	*.708*	*.744*	*.772*	*.818*	*.838*	*.852*	*.870*	*.882*	*.896*	*.902*	*.946*	
400	253.3	258.7	263.6	268.2	272.5	283.4	297.5	308.1	316.2	321.3	325.1	330.4	333.9	338.3	341.0	353.0	400
	.632	*.646*	*.660*	*.670*	*.680*	*.710*	*.744*	*.770*	*.792*	*.836*	*.852*	*.872*	*.884*	*.898*	*.906*	*.950*	
450	284.9	291.0	296.6	301.7	306.5	318.9	334.7	346.6	355.8	363.1	367.7	374.0	378.1	383.2	386.3	400.5	450
	.634	*.646*	*.658*	*.672*	*.682*	*.708*	*.744*	*.770*	*.790*	*.808*	*.850*	*.872*	*.886*	*.900*	*.910*	*.954*	
500	316.6	323.3	329.5	335.3	340.6	354.3	371.9	385.1	395.3	403.5	410.2	417.6	422.4	428.2	431.8	448.2	500
	.633	*.647*	*.659*	*.670*	*.681*	*.709*	*.744*	*.770*	*.791*	*.807*	*.821*	*.872*	*.886*	*.904*	*.912*	*.957*	
600	379.9	388.0	395.4	402.3	408.7	425.2	446.3	462.1	474.4	484.2	492.3	504.8	511.0	518.6	523.0	543.9	600
	.633	*.647*	*.660*	*.671*	*.681*	*.708*	*.744*	*.770*	*.790*	*.807*	*.820*	*.841*	*.887*	*.906*	*.916*	*.962*	
700	443.2	452.7	461.4	469.4	476.8	496.0	520.7	539.1	553.4	564.9	574.3	588.9	599.7	609.2	614.6	640.1	700
	.633	*.646*	*.659*	*.670*	*.681*	*.709*	*.744*	*.770*	*.791*	*.807*	*.820*	*.841*	*.857*	*.907*	*.918*	*.965*	
800	506.5	517.3	527.3	536.4	544.9	566.9	595.1	616.1	632.5	645.6	656.3	673.0	685.4	699.9	706.4	736.6	800
	.633	*.647*	*.659*	*.671*	*.681*	*.709*	*.743*	*.770*	*.790*	*.807*	*.821*	*.841*	*.857*	*.907*	*.919*	*.967*	
900	569.8	582.0	593.2	603.5	613.0	637.8	669.4	693.1	711.5	726.3	738.4	757.1	771.1	790.6	798.3	833.3	900
	.633	*.647*	*.659*	*.670*	*.681*	*.708*	*.744*	*.770*	*.791*	*.807*	*.820*	*.842*	*.857*	*.879*	*.921*	*.970*	
1000	633.1	646.7	659.1	670.5	681.1	708.6	743.8	770.1	790.6	807.0	820.4	841.3	856.8	878.5	890.4	930.3	1000
	.633	*.646*	*.659*	*.671*	*.681*	*.709*	*.744*	*.770*	*.790*	*.807*	*.821*	*.841*	*.856*	*.878*	*.921*	*.977*	
1100	696.4	711.3	725.0	737.6	749.2	779.5	818.2	847.1	869.6	887.7	902.5	925.4	942.4	966.3	982.5	1028.	1100
	.6331	*.6467*	*.6591*	*.6705*	*.6811*	*.7086*	*.7438*	*.7701*	*.7906*	*.8070*	*.8204*	*.8413*	*.8568*	*.8785*	*.8932*		
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	k																

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.0653															
3	.110	.249														
4	.155	.370	.535													
5	.194	.495	.733	.900												
6	.233	.619	.937	1.16	1.33											
7	.272	.743	1.14	1.44	1.64	1.80										
8	.311	.866	1.35	1.71	1.97	2.16	2.31									
9	.349	.988	1.56	2.00	2.31	2.54	2.72	2.85								
10	.388	1.10	1.77	2.28	2.65	2.92	3.13	3.29	3.43							
11	.427	1.21	1.98	2.56	2.99	3.31	3.55	3.74	3.89	4.02						
12	.466	1.32	2.18	2.85	3.34	3.70	3.98	4.20	4.37	4.52	4.64					
13	.505	1.43	2.39	3.13	3.69	4.10	4.42	4.66	4.86	5.02	5.15	5.27				
14	.543	1.54	2.59	3.41	4.03	4.50	4.85	5.13	5.35	5.53	5.68	5.81	5.92			
15	.582	1.65	2.79	3.69	4.38	4.90	5.29	5.60	5.84	6.04	6.21	6.35	6.47	6.58		
16	.621	1.76	2.99	3.97	4.73	5.30	5.74	6.07	6.34	6.56	6.74	6.90	7.03	7.15	7.26	
17	.660	1.87	3.18	4.25	5.08	5.71	6.18	6.55	6.85	7.09	7.29	7.46	7.60	7.73	7.84	7.95
18	.699	1.98	3.37	4.53	5.43	6.11	6.63	7.03	7.36	7.62	7.83	8.02	8.17	8.31	8.43	8.54
19	.738	2.09	3.55	4.81	5.77	6.51	7.08	7.52	7.87	8.15	8.38	8.58	8.75	8.90	9.03	9.15
20	.776	2.20	3.74	5.09	6.12	6.91	7.53	8.00	8.38	8.69	8.94	9.15	9.33	9.49	9.63	9.76
21	.815	2.31	3.93	5.36	6.46	7.32	7.98	8.49	8.90	9.23	9.50	9.73	9.92	10.1	10.2	10.4
22	.854	2.42	4.11	5.64	6.81	7.72	8.43	8.98	9.41	9.77	10.1	10.3	10.5	10.7	10.9	11.0
23	.893	2.53	4.30	5.91	7.15	8.12	8.88	9.47	9.93	10.3	10.6	10.9	11.1	11.3	11.5	11.6
24	.932	2.63	4.49	6.19	7.49	8.52	9.33	9.96	10.5	10.9	11.2	11.5	11.7	11.9	12.1	12.2
25	.970	2.74	4.68	6.46	7.84	8.93	9.78	10.4	11.0	11.4	11.8	12.1	12.3	12.5	12.7	12.9
26	1.01	2.85	4.86	6.72	8.18	9.33	10.2	10.9	11.5	12.0	12.3	12.6	12.9	13.1	13.3	13.5
27	1.05	2.96	5.05	6.97	8.52	9.73	10.7	11.4	12.0	12.5	12.9	13.2	13.5	13.7	14.0	14.1
28	1.09	3.07	5.24	7.23	8.86	10.1	11.1	11.9	12.5	13.1	13.5	13.8	14.1	14.4	14.6	14.8
29	1.13	3.18	5.42	7.49	9.20	10.5	11.6	12.4	13.1	13.6	14.0	14.4	14.7	15.0	15.2	15.4
30	1.16	3.29	5.61	7.75	9.53	10.9	12.0	12.9	13.6	14.2	14.6	15.0	15.3	15.6	15.9	16.1
31	1.20	3.40	5.80	8.01	9.87	11.3	12.5	13.4	14.1	14.7	15.2	15.6	15.9	16.2	16.5	16.7
32	1.24	3.51	5.98	8.27	10.2	11.7	12.9	13.9	14.6	15.3	15.8	16.2	16.6	16.9	17.1	17.4
33	1.28	3.62	6.17	8.52	10.5	12.1	13.4	14.4	15.2	15.8	16.4	16.8	17.2	17.5	17.8	18.0
34	1.32	3.73	6.36	8.78	10.9	12.5	13.8	14.9	15.7	16.4	16.9	17.4	17.8	18.1	18.4	18.7
35	1.36	3.84	6.55	9.04	11.2	12.9	14.3	15.3	16.2	16.9	17.5	18.0	18.4	18.8	19.1	19.3
36	1.40	3.95	6.73	9.30	11.5	13.3	14.7	15.8	16.7	17.5	18.1	18.6	19.0	19.4	19.7	20.0
37	1.44	4.06	6.92	9.56	11.9	13.7	15.1	16.3	17.3	18.0	18.7	19.2	19.6	20.0	20.3	20.6
38	1.48	4.17	7.11	9.82	12.2	14.1	15.6	16.8	17.8	18.6	19.3	19.8	20.3	20.7	21.0	21.3
39	1.51	4.28	7.29	10.1	12.5	14.5	16.0	17.3	18.3	19.2	19.8	20.4	20.9	21.3	21.6	22.0
40	1.55	4.39	7.48	10.3	12.8	14.9	16.5	17.8	18.8	19.7	20.4	21.0	21.5	21.9	22.3	22.6
41	1.59	4.50	7.67	10.6	13.1	15.2	16.9	18.3	19.4	20.3	21.0	21.6	22.1	22.6	22.9	23.3
42	1.63	4.61	7.86	10.8	13.5	15.6	17.4	18.8	19.9	20.8	21.6	22.2	22.8	23.2	23.6	23.9
43	1.67	4.72	8.04	11.1	13.8	16.0	17.8	19.2	20.4	21.4	22.2	22.8	23.4	23.8	24.3	24.6
44	1.71	4.83	8.23	11.4	14.1	16.4	18.2	19.7	20.9	21.9	22.7	23.4	24.0	24.5	24.9	25.3
45	1.75	4.94	8.42	11.6	14.4	16.8	18.7	20.2	21.5	22.5	23.3	24.0	24.6	25.1	25.6	25.9
46	1.79	5.05	8.60	11.9	14.7	17.2	19.1	20.7	22.0	23.0	23.9	24.6	25.2	25.8	26.2	26.6
47	1.82	5.16	8.79	12.1	15.1	17.6	19.6	21.2	22.5	23.6	24.5	25.2	25.9	26.4	26.9	27.3
48	1.86	5.27	8.98	12.4	15.4	18.0	20.0	21.7	23.0	24.1	25.1	25.8	26.5	27.1	27.5	27.9
49	1.90	5.38	9.16	12.7	15.7	18.3	20.4	22.1	23.5	24.7	25.7	26.5	27.1	27.7	28.2	28.6
50	1.94	5.49	9.35	12.9	16.0	18.7	20.9	22.6	24.1	25.3	26.2	27.1	27.8	28.3	28.8	29.3
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
1																.0020
2																.0653
3																.249
4																.535
5																.900
6																1.33
7																1.80
8																2.31
9																2.85
10																3.43
11																4.02
12																4.64
13																5.27
14																5.92
15																6.58
16																7.26
17																7.95
18	8.64															8.64
19	9.25	9.35														9.35
20	9.87	9.97	10.1													10.1
21	10.5	10.6	10.7	10.8												10.8
22	11.1	11.2	11.3	11.4	11.5											11.5
23	11.7	11.9	12.0	12.1	12.2											12.3
24	12.4	12.5	12.6	12.7	12.8											13.0
25	13.0	13.2	13.3	13.4	13.5	13.8										13.8
26	13.7	13.8	13.9	14.0	14.2	14.4										14.5
27	14.3	14.5	14.6	14.7	14.8	15.1										15.3
28	15.0	15.1	15.2	15.4	15.5	15.8										16.1
29	15.6	15.8	15.9	16.0	16.2	16.5										16.8
30	16.3	16.4	16.6	16.7	16.8	17.2	17.6									17.6
31	16.9	17.1	17.2	17.4	17.5	17.9	18.3									18.4
32	17.6	17.8	17.9	18.1	18.2	18.6	19.0									19.2
33	18.2	18.4	18.6	18.8	18.9	19.3	19.7									20.0
34	18.9	19.1	19.3	19.4	19.6	20.0	20.5									20.8
35	19.6	19.8	19.9	20.1	20.3	20.7	21.2	21.6								21.6
36	20.2	20.4	20.6	20.8	21.0	21.4	21.9	22.3								22.4
37	20.9	21.1	21.3	21.5	21.7	22.1	22.6	23.0								23.2
38	21.6	21.8	22.0	22.2	22.4	22.8	23.3	23.8								24.0
39	22.2	22.5	22.7	22.9	23.1	23.5	24.1	24.5								24.8
40	22.9	23.1	23.4	23.6	23.8	24.2	24.8	25.2	25.6							25.6
41	23.6	23.8	24.1	24.3	24.5	24.9	25.5	26.0	26.4							26.4
42	24.2	24.5	24.7	25.0	25.2	25.6	26.3	26.7	27.1							27.2
43	24.9	25.2	25.4	25.7	25.9	26.4	27.0	27.5	27.9							28.1
44	25.6	25.9	26.1	26.4	26.6	27.1	27.7	28.2	28.6							28.9
45	26.3	26.6	26.8	27.1	27.3	27.8	28.5	29.0	29.4	29.7						29.7
46	26.9	27.2	27.5	27.8	28.0	28.5	29.2	29.7	30.1	30.5						30.5
47	27.6	27.9	28.2	28.5	28.7	29.3	30.0	30.5	30.9	31.2						31.4
48	28.3	28.6	28.9	29.2	29.4	30.0	30.7	31.2	31.7	32.0						32.2
49	29.0	29.3	29.6	29.9	30.1	30.7	31.4	32.0	32.4	32.8						33.0
50	29.7	30.0	30.3	30.6	30.8	31.4	32.2	32.8	33.2	33.6	33.9					33.9
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	1.94	5.49	9.35	12.9	16.0	18.7	20.9	22.6	24.1	25.3	26.2	27.1	27.8	28.3	28.8	29.3
51	1.98	5.60	9.54	13.2	16.4	19.1	21.3	23.1	24.6	25.8	26.8	27.7	28.4	29.0	29.5	30.0
52	2.02	5.71	9.73	13.4	16.7	19.5	21.7	23.6	25.1	26.4	27.4	28.3	29.0	29.6	30.2	30.6
53	2.06	5.82	9.91	13.7	17.0	19.8	22.2	24.1	25.6	26.9	28.0	28.9	29.6	30.3	30.8	31.3
54	2.10	5.93	10.1	13.9	17.3	20.2	22.6	24.5	26.1	27.5	28.6	29.5	30.3	30.9	31.5	32.0
55	2.13	6.04	10.3	14.2	17.6	20.6	23.0	25.0	26.7	28.0	29.1	30.1	30.9	31.6	32.1	32.6
56	2.17	6.15	10.5	14.5	18.0	21.0	23.5	25.5	27.2	28.6	29.7	30.7	31.5	32.2	32.8	33.3
57	2.21	6.26	10.7	14.7	18.3	21.3	23.9	26.0	27.7	29.1	30.3	31.3	32.1	32.8	33.5	34.0
58	2.25	6.37	10.8	15.0	18.6	21.7	24.3	26.4	28.2	29.7	30.9	31.9	32.8	33.5	34.1	34.7
59	2.29	6.48	11.0	15.2	18.9	22.1	24.8	26.9	28.7	30.2	31.5	32.5	33.4	34.1	34.8	35.3
60	2.33	6.59	11.2	15.5	19.2	22.5	25.2	27.4	29.2	30.8	32.0	33.1	34.0	34.8	35.4	36.0
61	2.37	6.70	11.4	15.8	19.6	22.8	25.6	27.9	29.7	31.3	32.6	33.7	34.6	35.4	36.1	36.7
62	2.41	6.81	11.6	16.0	19.9	23.2	26.0	28.3	30.3	31.9	33.2	34.3	35.3	36.1	36.8	37.4
63	2.45	6.92	11.8	16.3	20.2	23.6	26.5	28.8	30.8	32.4	33.8	34.9	35.9	36.7	37.4	38.0
64	2.48	7.03	12.0	16.5	20.5	24.0	26.9	29.3	31.3	33.0	34.3	35.5	36.5	37.4	38.1	38.7
65	2.52	7.14	12.2	16.8	20.8	24.3	27.3	29.8	31.8	33.5	34.9	36.1	37.1	38.0	38.8	39.4
66	2.56	7.25	12.3	17.0	21.2	24.7	27.7	30.2	32.3	34.0	35.5	36.7	37.8	38.7	39.4	40.1
67	2.60	7.36	12.5	17.3	21.5	25.1	28.2	30.7	32.8	34.6	36.1	37.3	38.4	39.3	40.1	40.7
68	2.64	7.47	12.7	17.6	21.8	25.5	28.6	31.2	33.3	35.1	36.7	37.9	39.0	39.9	40.7	41.4
69	2.68	7.58	12.9	17.8	22.1	25.8	29.0	31.7	33.8	35.7	37.2	38.5	39.6	40.6	41.4	42.1
70	2.72	7.68	13.1	18.1	22.4	26.2	29.4	32.1	34.4	36.2	37.8	39.1	40.3	41.2	42.1	42.8
71	2.76	7.79	13.3	18.3	22.8	26.6	29.8	32.6	34.9	36.8	38.4	39.7	40.9	41.9	42.7	43.5
72	2.79	7.90	13.5	18.6	23.1	26.9	30.3	33.1	35.4	37.3	39.0	40.3	41.5	42.5	43.4	44.1
73	2.83	8.01	13.7	18.9	23.4	27.3	30.7	33.5	35.9	37.9	39.5	40.9	42.1	43.2	44.0	44.8
74	2.87	8.12	13.8	19.1	23.7	27.7	31.1	34.0	36.4	38.4	40.1	41.5	42.8	43.8	44.7	45.5
75	2.91	8.23	14.0	19.4	24.0	28.1	31.5	34.5	36.9	38.9	40.7	42.1	43.4	44.5	45.4	46.2
76	2.95	8.34	14.2	19.6	24.4	28.4	31.9	34.9	37.4	39.5	41.2	42.7	44.0	45.1	46.0	46.8
77	2.99	8.45	14.4	19.9	24.7	28.8	32.4	35.4	37.9	40.0	41.8	43.3	44.6	45.7	46.7	47.5
78	3.03	8.56	14.6	20.1	25.0	29.2	32.8	35.9	38.4	40.6	42.4	43.9	45.3	46.4	47.4	48.2
79	3.07	8.67	14.8	20.4	25.3	29.6	33.2	36.3	38.9	41.1	43.0	44.5	45.9	47.0	48.0	48.9
80	3.11	8.78	15.0	20.7	25.7	29.9	33.6	36.8	39.4	41.7	43.5	45.1	46.5	47.7	48.7	49.5
81	3.14	8.89	15.1	20.9	26.0	30.3	34.0	37.3	39.9	42.2	44.1	45.7	47.1	48.3	49.3	50.2
82	3.18	9.00	15.3	21.2	26.3	30.7	34.5	37.7	40.4	42.7	44.7	46.3	47.7	49.0	50.0	50.9
83	3.22	9.11	15.5	21.4	26.6	31.1	34.9	38.2	40.9	43.3	45.3	46.9	48.4	49.6	50.7	51.6
84	3.26	9.22	15.7	21.7	26.9	31.4	35.3	38.6	41.5	43.8	45.8	47.5	49.0	50.2	51.3	52.3
85	3.30	9.33	15.9	22.0	27.3	31.8	35.7	39.1	42.0	44.4	46.4	48.1	49.6	50.9	52.0	52.9
86	3.34	9.44	16.1	22.2	27.6	32.2	36.1	39.6	42.5	44.9	47.0	48.7	50.2	51.5	52.6	53.6
87	3.38	9.55	16.3	22.5	27.9	32.6	36.6	40.0	43.0	45.4	47.5	49.3	50.8	52.2	53.3	54.3
88	3.42	9.66	16.5	22.7	28.2	32.9	37.0	40.5	43.5	46.0	48.1	49.9	51.5	52.8	54.0	55.0
89	3.45	9.77	16.6	23.0	28.5	33.3	37.4	40.9	44.0	46.5	48.7	50.5	52.1	53.4	54.6	55.6
90	3.49	9.88	16.8	23.2	28.9	33.7	37.8	41.4	44.5	47.0	49.2	51.1	52.7	54.1	55.3	56.3
91	3.53	9.99	17.0	23.5	29.2	34.1	38.2	41.9	45.0	47.6	49.8	51.7	53.3	54.7	55.9	57.0
92	3.57	10.1	17.2	23.8	29.5	34.4	38.7	42.3	45.5	48.1	50.4	52.3	53.9	55.4	56.6	57.7
93	3.61	10.2	17.4	24.0	29.8	34.8	39.1	42.8	46.0	48.6	50.9	52.9	54.6	56.0	57.3	58.3
94	3.65	10.3	17.6	24.3	30.1	35.2	39.5	43.2	46.5	49.2	51.5	53.5	55.2	56.6	57.9	59.0
95	3.69	10.4	17.8	24.5	30.5	35.6	39.9	43.7	47.0	49.7	52.1	54.1	55.8	57.3	58.6	59.7
96	3.73	10.5	18.0	24.8	30.8	35.9	40.4	44.2	47.5	50.2	52.6	54.7	56.4	57.9	59.2	60.4
97	3.77	10.6	18.1	25.1	31.1	36.3	40.8	44.6	47.9	50.8	53.2	55.3	57.0	58.6	59.9	61.0
98	3.80	10.8	18.3	25.3	31.4	36.7	41.2	45.1	48.4	51.3	53.8	55.9	57.6	59.2	60.5	61.7
99	3.84	10.9	18.5	25.6	31.7	37.1	41.6	45.5	48.9	51.8	54.3	56.4	58.3	59.8	61.2	62.4
100	3.88	11.0	18.7	25.8	32.1	37.4	42.0	46.0	49.4	52.4	54.9	57.0	58.9	60.5	61.9	63.1
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

k																k=N	N
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
29.7	30.0	30.3	30.6	30.8	31.4	32.2	32.8	33.2	33.6	33.9					33.9	50
30.4	30.7	31.0	31.3	31.5	32.2	32.9	33.5	34.0	34.3	34.7					34.7	51
31.0	31.4	31.7	32.0	32.3	32.9	33.7	34.3	34.7	35.1	35.4					35.6	52
31.7	32.1	32.4	32.7	33.0	33.6	34.4	35.0	35.5	35.9	36.2					36.4	53
32.4	32.8	33.1	33.4	33.7	34.4	35.2	35.8	36.3	36.7	37.0					37.2	54
33.1	33.5	33.8	34.1	34.4	35.1	35.9	36.6	37.1	37.5	37.8					38.1	55
33.8	34.2	34.5	34.8	35.1	35.8	36.7	37.3	37.8	38.2	38.6					38.9	56
34.5	34.9	35.2	35.6	35.8	36.6	37.5	38.1	38.6	39.0	39.4					39.8	57
35.1	35.6	35.9	36.3	36.6	37.3	38.2	38.9	39.4	39.8	40.2					40.6	58
35.8	36.3	36.6	37.0	37.3	38.0	39.0	39.6	40.2	40.6	41.0					41.5	59
36.5	37.0	37.3	37.7	38.0	38.8	39.7	40.4	41.0	41.4	41.8	42.4				42.4	60
37.2	37.7	38.1	38.4	38.7	39.5	40.5	41.2	41.7	42.2	42.5	43.2				43.2	61
37.9	38.4	38.8	39.1	39.5	40.3	41.3	42.0	42.5	43.0	43.3	44.0				44.1	62
38.6	39.1	39.5	39.8	40.2	41.0	42.0	42.7	43.3	43.8	44.1	44.8				44.9	63
39.3	39.8	40.2	40.6	40.9	41.8	42.8	43.5	44.1	44.5	44.9	45.6				45.8	64
40.0	40.5	40.9	41.3	41.6	42.5	43.5	44.3	44.9	45.3	45.7	46.4				46.6	65
40.6	41.2	41.6	42.0	42.4	43.2	44.3	45.1	45.7	46.1	46.5	47.2				47.5	66
41.3	41.9	42.3	42.7	43.1	44.0	45.1	45.8	46.4	46.9	47.3	48.0				48.4	67
42.0	42.6	43.0	43.4	43.8	44.7	45.8	46.6	47.2	47.7	48.1	48.8				49.2	68
42.7	43.3	43.7	44.2	44.5	45.5	46.6	47.4	48.0	48.5	48.9	49.6				50.1	69
43.4	44.0	44.4	44.9	45.3	46.2	47.4	48.2	48.8	49.3	49.7	50.4	51.0			51.0	70
44.1	44.7	45.2	45.6	46.0	47.0	48.1	49.0	49.6	50.1	50.6	51.2	51.8			51.8	71
44.8	45.4	45.9	46.3	46.7	47.7	48.9	49.8	50.4	50.9	51.4	52.1	52.6			52.7	72
45.5	46.1	46.6	47.0	47.4	48.5	49.7	50.5	51.2	51.7	52.2	52.9	53.4			53.6	73
46.2	46.8	47.3	47.8	48.2	49.2	50.4	51.3	52.0	52.5	53.0	53.7	54.3			54.5	74
46.9	47.5	48.0	48.5	48.9	50.0	51.2	52.1	52.8	53.3	53.8	54.5	55.1			55.3	75
47.5	48.2	48.7	49.2	49.6	50.7	52.0	52.9	53.6	54.1	54.6	55.3	55.9			56.2	76
48.2	48.9	49.4	49.9	50.4	51.5	52.8	53.7	54.4	54.9	55.4	56.1	56.7			57.1	77
48.9	49.6	50.1	50.6	51.1	52.2	53.5	54.5	55.2	55.7	56.2	57.0	57.6			58.0	78
49.6	50.3	50.9	51.4	51.8	53.0	54.3	55.3	56.0	56.5	57.0	57.8	58.4			58.8	79
50.3	51.0	51.6	52.1	52.6	53.7	55.1	56.0	56.8	57.4	57.8	58.6	59.2			59.7	80
51.0	51.7	52.3	52.8	53.3	54.5	55.9	56.8	57.6	58.2	58.6	59.4	60.0			60.6	81
51.7	52.4	53.0	53.5	54.0	55.2	56.6	57.6	58.4	59.0	59.5	60.3	60.9			61.5	82
52.4	53.1	53.7	54.3	54.8	56.0	57.4	58.4	59.2	59.8	60.3	61.1	61.7			62.4	83
53.1	53.8	54.4	55.0	55.5	56.7	58.2	59.2	60.0	60.6	61.1	61.9	62.5			63.2	84
53.8	54.5	55.1	55.7	56.2	57.5	59.0	60.0	60.8	61.4	61.9	62.7	63.4			64.1	85
54.5	55.2	55.9	56.4	57.0	58.2	59.7	60.8	61.6	62.2	62.7	63.6	64.2			65.0	86
55.1	55.9	56.6	57.2	57.7	59.0	60.5	61.6	62.4	63.0	63.5	64.4	65.0			65.9	87
55.8	56.6	57.3	57.9	58.4	59.7	61.3	62.4	63.2	63.8	64.4	65.2	65.9			66.8	88
56.5	57.3	58.0	58.6	59.2	60.5	62.1	63.2	64.0	64.6	65.2	66.0	66.7			67.7	89
57.2	58.0	58.7	59.3	59.9	61.3	62.8	64.0	64.8	65.5	66.0	66.9	67.5	68.6		68.6	90
57.9	58.7	59.4	60.1	60.6	62.0	63.6	64.8	65.6	66.3	66.8	67.7	68.4	69.4		69.4	91
58.6	59.4	60.1	60.8	61.4	62.8	64.4	65.6	66.4	67.1	67.6	68.5	69.2	70.2		70.3	92
59.3	60.1	60.9	61.5	62.1	63.5	65.2	66.3	67.2	67.9	68.5	69.4	70.0	71.1		71.2	93
60.0	60.8	61.6	62.2	62.8	64.3	66.0	67.1	68.0	68.7	69.3	70.2	70.9	71.9		72.1	94
60.7	61.5	62.3	63.0	63.6	65.0	66.7	67.9	68.8	69.5	70.1	71.0	71.7	72.8		73.0	95
61.4	62.2	63.0	63.7	64.3	65.8	67.5	68.7	69.6	70.3	70.9	71.8	72.6	73.6		73.9	96
62.0	62.9	63.7	64.4	65.0	66.5	68.3	69.5	70.4	71.2	71.8	72.7	73.4	74.5		74.8	97
62.7	63.6	64.4	65.1	65.8	67.3	69.1	70.3	71.3	72.0	72.6	73.5	74.2	75.3		75.7	98
63.4	64.3	65.1	65.9	66.5	68.1	69.9	71.1	72.1	72.8	73.4	74.3	75.1	76.2		76.6	99
64.1	65.0	65.9	66.6	67.2	68.8	70.7	71.9	72.9	73.6	74.2	75.2	75.9	77.0		77.5	100
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
k																

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	3.88	11.0	18.7	25.8	32.1	37.4	42.0	46.0	49.4	52.4	54.9	57.0	58.9	60.5	61.9	63.1
102	3.96	11.2	19.1	26.3	32.7	38.2	42.9	46.9	50.4	53.4	56.0	58.2	60.1	61.8	63.2	64.4
104	4.04	11.4	19.5	26.9	33.3	38.9	43.7	47.8	51.4	54.5	57.1	59.4	61.3	63.0	64.5	65.8
106	4.11	11.6	19.8	27.4	34.0	39.7	44.6	48.8	52.4	55.6	58.3	60.6	62.6	64.3	65.8	67.1
108	4.19	11.9	20.2	27.9	34.6	40.4	45.4	49.7	53.4	56.6	59.4	61.8	63.8	65.6	67.1	68.5
110	4.27	12.1	20.6	28.4	35.3	41.2	46.2	50.6	54.4	57.7	60.5	62.9	65.0	66.8	68.4	69.8
112	4.35	12.3	20.9	28.9	35.9	41.9	47.1	51.5	55.4	58.7	61.6	64.1	66.3	68.1	69.7	71.1
114	4.43	12.5	21.3	29.4	36.6	42.7	47.9	52.4	56.4	59.8	62.7	65.3	67.5	69.4	71.0	72.5
116	4.50	12.7	21.7	30.0	37.2	43.4	48.8	53.4	57.3	60.8	63.9	66.5	68.7	70.6	72.3	73.8
118	4.58	13.0	22.1	30.5	37.8	44.2	49.6	54.3	58.3	61.9	65.0	67.6	69.9	71.9	73.7	75.2
120	4.66	13.2	22.4	31.0	38.5	44.9	50.4	55.2	59.3	62.9	66.1	68.8	71.1	73.2	75.0	76.5
122	4.74	13.4	22.8	31.5	39.1	45.7	51.3	56.1	60.3	64.0	67.2	70.0	72.4	74.4	76.3	77.9
124	4.81	13.6	23.2	32.0	39.8	46.4	52.1	57.0	61.3	65.0	68.3	71.1	73.6	75.7	77.6	79.2
126	4.89	13.8	23.6	32.5	40.4	47.2	53.0	58.0	62.3	66.1	69.4	72.3	74.8	77.0	78.9	80.5
128	4.97	14.1	23.9	33.1	41.0	47.9	53.8	58.9	63.3	67.1	70.5	73.5	76.0	78.2	80.2	81.9
130	5.05	14.3	24.3	33.6	41.7	48.7	54.6	59.8	64.3	68.2	71.6	74.6	77.2	79.5	81.5	83.2
132	5.12	14.5	24.7	34.1	42.3	49.4	55.5	60.7	65.3	69.2	72.7	75.8	78.4	80.7	82.8	84.5
134	5.20	14.7	25.1	34.6	43.0	50.2	56.3	61.6	66.2	70.3	73.8	76.9	79.6	82.0	84.1	85.9
136	5.28	14.9	25.4	35.1	43.6	50.9	57.2	62.6	67.2	71.3	74.9	78.1	80.9	83.3	85.4	87.2
138	5.36	15.2	25.8	35.6	44.2	51.6	58.0	63.5	68.2	72.4	76.0	79.2	82.1	84.5	86.7	88.5
140	5.43	15.4	26.2	36.2	44.9	52.4	58.8	64.4	69.2	73.4	77.1	80.4	83.3	85.8	87.9	89.9
142	5.51	15.6	26.6	36.7	45.5	53.1	59.7	65.3	70.2	74.5	78.2	81.5	84.5	87.0	89.2	91.2
144	5.59	15.8	26.9	37.2	46.2	53.9	60.5	66.2	71.2	75.5	79.3	82.7	85.6	88.3	90.5	92.5
146	5.67	16.0	27.3	37.7	46.8	54.6	61.4	67.2	72.2	76.5	80.4	83.8	86.8	89.5	91.8	93.9
148	5.74	16.2	27.7	38.2	47.5	55.4	62.2	68.1	73.2	77.6	81.5	84.9	88.0	90.8	93.1	95.2
150	5.82	16.5	28.1	38.7	48.1	56.1	63.0	69.0	74.2	78.6	82.6	86.1	89.2	92.0	94.4	96.5
152	5.90	16.7	28.4	39.3	48.7	56.9	63.9	69.9	75.1	79.7	83.7	87.2	90.4	93.2	95.7	97.8
154	5.98	16.9	28.8	39.8	49.4	57.6	64.7	70.8	76.1	80.7	84.8	88.4	91.6	94.5	97.0	99.2
156	6.06	17.1	29.2	40.3	50.0	58.4	65.6	71.8	77.1	81.8	85.9	89.5	92.8	95.7	98.3	100.5
158	6.13	17.3	29.6	40.8	50.7	59.1	66.4	72.7	78.1	82.8	87.0	90.7	94.0	96.9	99.6	101.8
160	6.21	17.6	29.9	41.3	51.3	59.9	67.3	73.6	79.1	83.9	88.1	91.8	95.2	98.1	100.8	103.1
162	6.29	17.8	30.3	41.8	51.9	60.6	68.1	74.5	80.1	84.9	89.2	93.0	96.4	99.4	102.1	104.5
164	6.37	18.0	30.7	42.4	52.6	61.4	68.9	75.4	81.1	86.0	90.3	94.1	97.5	100.6	103.4	105.8
166	6.44	18.2	31.0	42.9	53.2	62.1	69.8	76.4	82.1	87.0	91.4	95.3	98.7	101.8	104.6	107.1
168	6.52	18.4	31.4	43.4	53.9	62.9	70.6	77.3	83.1	88.1	92.5	96.4	99.9	103.1	105.9	108.4
170	6.60	18.7	31.8	43.9	54.5	63.6	71.5	78.2	84.0	89.1	93.6	97.6	101.1	104.3	107.1	109.7
172	6.68	18.9	32.2	44.4	55.1	64.4	72.3	79.1	85.0	90.2	94.7	98.7	102.3	105.5	108.4	111.0
174	6.75	19.1	32.5	44.9	55.8	65.1	73.1	80.0	86.0	91.2	95.8	99.9	103.5	106.7	109.7	112.3
176	6.83	19.3	32.9	45.5	56.4	65.9	74.0	81.0	87.0	92.3	96.9	101.0	104.7	108.0	110.9	113.6
178	6.91	19.5	33.3	46.0	57.1	66.6	74.8	81.9	88.0	93.3	98.0	102.2	105.9	109.2	112.2	114.9
180	6.99	19.8	33.7	46.5	57.7	67.4	75.7	82.8	89.0	94.4	99.1	103.3	107.1	110.4	113.4	116.2
182	7.06	20.0	34.0	47.0	58.4	68.1	76.5	83.7	90.0	95.4	100.2	104.5	108.2	111.6	114.7	117.5
184	7.14	20.2	34.4	47.5	59.0	68.9	77.3	84.6	91.0	96.5	101.3	105.6	109.4	112.9	116.0	118.8
186	7.22	20.4	34.8	48.0	59.6	69.6	78.2	85.6	92.0	97.5	102.4	106.8	110.6	114.1	117.2	120.1
188	7.30	20.6	35.2	48.6	60.3	70.4	79.0	86.5	92.9	98.6	103.5	107.9	111.8	115.3	118.5	121.3
190	7.38	20.9	35.5	49.1	60.9	71.1	79.9	87.4	93.9	99.6	104.6	109.1	113.0	116.6	119.7	122.6
192	7.45	21.1	35.9	49.6	61.6	71.9	80.7	88.3	94.9	100.7	105.7	110.2	114.2	117.8	121.0	123.9
194	7.53	21.3	36.3	50.1	62.2	72.6	81.5	89.2	95.9	101.7	106.8	111.4	115.4	119.0	122.3	125.2
196	7.61	21.5	36.7	50.6	62.8	73.4	82.4	90.2	96.9	102.8	107.9	112.5	116.6	120.2	123.5	126.5
198	7.69	21.7	37.0	51.1	63.5	74.1	83.2	91.1	97.9	103.8	109.0	113.6	117.8	121.5	124.8	127.8
200	7.76	22.0	37.4	51.7	64.1	74.9	84.1	92.0	98.9	104.9	110.1	114.8	119.0	122.7	126.0	129.1
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

k																N
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
64.1	65.0	65.9	66.6	67.2	68.8	70.7	71.9	72.9	73.6	74.2	75.2	75.9	77.0		77.5	100
65.5	66.4	67.3	68.0	68.7	70.3	72.2	73.5	74.5	75.3	75.9	76.8	77.6	78.7		79.3	102
66.9	67.9	68.7	69.5	70.2	71.8	73.8	75.1	76.1	76.9	77.5	78.5	79.3	80.4		81.1	104
68.3	69.3	70.1	70.9	71.6	73.4	75.4	76.7	77.7	78.5	79.2	80.2	81.0	82.1		82.8	106
69.6	70.7	71.6	72.4	73.1	74.9	76.9	78.3	79.4	80.2	80.8	81.9	82.7	83.8		84.6	108
71.0	72.1	73.0	73.8	74.6	76.4	78.5	79.9	81.0	81.8	82.5	83.6	84.4	85.6	86.4	86.4	110
72.4	73.5	74.4	75.3	76.1	77.9	80.1	81.6	82.6	83.5	84.2	85.2	86.0	87.3	88.2	88.3	112
73.8	74.9	75.9	76.7	77.5	79.4	81.7	83.2	84.3	85.1	85.8	86.9	87.7	89.0	89.9	90.1	114
75.1	76.3	77.3	78.2	79.0	81.0	83.2	84.8	85.9	86.8	87.5	88.6	89.4	90.7	91.6	91.9	116
76.5	77.7	78.7	79.6	80.5	82.5	84.8	86.4	87.5	88.4	89.2	90.3	91.1	92.4	93.4	93.7	118
77.9	79.1	80.1	81.1	81.9	84.0	86.4	88.0	89.2	90.1	90.8	92.0	92.8	94.1	95.1	95.5	120
79.2	80.5	81.6	82.5	83.4	85.5	88.0	89.6	90.8	91.7	92.5	93.7	94.5	95.8	96.8	97.3	122
80.6	81.9	83.0	84.0	84.9	87.0	89.5	91.2	92.5	93.4	94.2	95.3	96.2	97.6	98.5	99.1	124
82.0	83.3	84.4	85.4	86.4	88.6	91.1	92.8	94.1	95.1	95.8	97.0	98.0	99.3	100.3	100.9	126
83.4	84.7	85.9	86.9	87.8	90.1	92.7	94.5	95.7	96.7	97.5	98.7	99.7	101.0	102.0	102.7	128
84.7	86.1	87.3	88.3	89.3	91.6	94.3	96.1	97.4	98.4	99.2	100.4	101.4	102.7	103.8	104.6	130
86.1	87.5	88.7	89.8	90.8	93.1	95.8	97.7	99.0	100.0	100.9	102.1	103.1	104.5	105.5	106.4	132
87.5	88.9	90.1	91.2	92.2	94.6	97.4	99.3	100.7	101.7	102.5	103.8	104.8	106.2	107.2	108.2	134
88.8	90.3	91.5	92.7	93.7	96.2	99.0	100.9	102.3	103.4	104.2	105.5	106.5	107.9	109.0	110.0	136
90.2	91.7	93.0	94.1	95.2	97.7	100.6	102.5	104.0	105.0	105.9	107.2	108.2	109.7	110.7	111.9	138
91.6	93.1	94.4	95.6	96.6	99.2	102.2	104.2	105.6	106.7	107.6	108.9	109.9	111.4	112.5	113.7	140
92.9	94.5	95.8	97.0	98.1	100.7	103.8	105.8	107.3	108.4	109.3	110.6	111.7	113.1	114.2	115.5	142
94.3	95.8	97.2	98.5	99.6	102.3	105.3	107.4	108.9	110.0	110.9	112.3	113.4	114.9	116.0	117.4	144
95.7	97.2	98.7	99.9	101.0	103.8	106.9	109.0	110.6	111.7	112.6	114.0	115.1	116.6	117.7	119.2	146
97.0	98.6	100.1	101.4	102.5	105.3	108.5	110.7	112.2	113.4	114.3	115.7	116.8	118.4	119.5	121.0	148
98.4	100.0	101.5	102.8	104.0	106.8	110.1	112.3	113.9	115.1	116.0	117.5	118.5	120.1	121.2	122.9	150
99.7	101.4	102.9	104.2	105.4	108.3	111.7	113.9	115.5	116.7	117.7	119.2	120.3	121.8	123.0	124.7	152
101.1	102.8	104.3	105.7	106.9	109.9	113.3	115.5	117.2	118.4	119.4	120.9	122.0	123.6	124.7	126.5	154
102.5	104.2	105.7	107.1	108.4	111.4	114.8	117.2	118.8	120.1	121.1	122.6	123.7	125.3	126.5	128.4	156
103.8	105.6	107.2	108.6	109.8	112.9	116.4	118.8	120.5	121.8	122.8	124.3	125.4	127.1	128.2	130.2	158
105.2	107.0	108.6	110.0	111.3	114.4	118.0	120.4	122.1	123.4	124.5	126.0	127.2	128.8	130.0	132.1	160
106.5	108.4	110.0	111.4	112.8	115.9	119.6	122.0	123.8	125.1	126.2	127.7	128.9	130.6	131.8	133.9	162
107.9	109.7	111.4	112.9	114.2	117.5	121.2	123.7	125.4	126.8	127.8	129.4	130.6	132.3	133.5	135.8	164
109.2	111.1	112.8	114.3	115.7	119.0	122.8	125.3	127.1	128.5	129.5	131.2	132.4	134.1	135.3	137.6	166
110.6	112.5	114.2	115.8	117.1	120.5	124.4	126.9	128.8	130.1	131.2	132.9	134.1	135.8	137.1	139.4	168
111.9	113.9	115.6	117.2	118.6	122.0	125.9	128.6	130.4	131.8	132.9	134.6	135.8	137.6	138.8	141.3	170
113.3	115.3	117.0	118.6	120.1	123.5	127.5	130.2	132.1	133.5	134.6	136.3	137.5	139.3	140.6	143.1	172
114.6	116.7	118.5	120.1	121.5	125.1	129.1	131.8	133.7	135.2	136.3	138.0	139.3	141.1	142.3	145.0	174
116.0	118.0	119.9	121.5	123.0	126.6	130.7	133.4	135.4	136.9	138.0	139.8	141.0	142.8	144.1	146.9	176
117.3	119.4	121.3	122.9	124.4	128.1	132.3	135.1	137.1	138.5	139.7	141.5	142.8	144.6	145.9	148.7	178
118.7	120.8	122.7	124.4	125.9	129.6	133.9	136.7	138.7	140.2	141.4	143.2	144.5	146.3	147.6	150.6	180
120.0	122.2	124.1	125.8	127.3	131.1	135.5	138.3	140.4	141.9	143.1	144.9	146.2	148.1	149.4	152.4	182
121.3	123.6	125.5	127.2	128.8	132.6	137.0	140.0	142.0	143.6	144.8	146.6	148.0	149.9	151.2	154.3	184
122.6	124.9	126.9	128.7	130.3	134.2	138.6	141.6	143.7	145.3	146.5	148.4	149.7	151.6	153.0	156.1	186
124.0	126.3	128.3	130.1	131.7	135.7	140.2	143.2	145.4	147.0	148.2	150.1	151.5	153.4	154.7	158.0	188
125.3	127.7	129.7	131.5	133.2	137.2	141.8	144.9	147.0	148.7	149.9	151.8	153.2	155.1	156.5	159.8	190
126.6	129.0	131.1	133.0	134.6	138.7	143.4	146.5	148.7	150.3	151.6	153.5	154.9	156.9	158.3	161.7	192
127.9	130.4	132.5	134.4	136.1	140.2	145.0	148.1	150.4	152.0	153.3	155.3	156.7	158.7	160.1	163.6	194
129.2	131.7	133.9	135.8	137.5	141.7	146.6	149.8	152.0	153.7	155.0	157.0	158.4	160.4	161.8	165.4	196
130.5	133.1	135.3	137.2	139.0	143.2	148.1	151.4	153.7	155.4	156.8	158.7	160.2	162.2	163.6	167.3	198
131.9	134.4	136.7	138.7	140.4	144.8	149.7	153.0	155.4	157.1	158.5	160.5	161.9	164.0	165.4	169.2	200
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	7.76	22.0	37.4	51.7	64.1	74.9	84.1	92.0	98.9	104.9	110.1	114.8	119.0	122.7	126.0	129.1
202	7.84	22.2	37.8	52.2	64.8	75.6	84.9	92.9	99.9	105.9	111.2	115.9	120.1	123.9	127.3	130.4
204	7.92	22.4	38.2	52.7	65.4	76.4	85.7	93.8	100.9	107.0	112.3	117.1	121.3	125.1	128.6	131.7
206	8.00	22.6	38.5	53.2	66.1	77.1	86.6	94.8	101.8	108.0	113.4	118.2	122.5	126.4	129.8	133.0
208	8.07	22.8	38.9	53.7	66.7	77.8	87.4	95.7	102.8	109.1	114.5	119.4	123.7	127.6	131.1	134.3
210	8.15	23.1	39.3	54.2	67.3	78.6	88.3	96.6	103.8	110.1	115.6	120.5	124.9	128.8	132.3	135.5
212	8.23	23.3	39.7	54.8	68.0	79.3	89.1	97.5	104.8	111.2	116.7	121.7	126.1	130.0	133.6	136.8
214	8.31	23.5	40.0	55.3	68.6	80.1	89.9	98.4	105.8	112.2	117.8	122.8	127.3	131.3	134.9	138.1
216	8.38	23.7	40.4	55.8	69.3	80.8	90.8	99.4	106.8	113.3	118.9	124.0	128.5	132.5	136.1	139.4
218	8.46	23.9	40.8	56.3	69.9	81.6	91.6	100.3	107.8	114.3	120.0	125.1	129.7	133.7	137.4	140.7
220	8.54	24.2	41.1	56.8	70.5	82.3	92.5	101.2	108.8	115.3	121.1	126.3	130.8	135.0	138.7	142.0
222	8.62	24.4	41.5	57.3	71.2	83.1	93.3	102.1	109.8	116.4	122.2	127.4	132.0	136.2	139.9	143.3
224	8.70	24.6	41.9	57.9	71.8	83.8	94.2	103.0	110.7	117.4	123.3	128.6	133.2	137.4	141.2	144.6
226	8.77	24.8	42.3	58.4	72.5	84.6	95.0	104.0	111.7	118.5	124.4	129.7	134.4	138.6	142.4	145.9
228	8.85	25.0	42.6	58.9	73.1	85.3	95.8	104.9	112.7	119.5	125.5	130.9	135.6	139.9	143.7	147.2
230	8.93	25.3	43.0	59.4	73.7	86.1	96.7	105.8	113.7	120.6	126.6	132.0	136.8	141.1	145.0	148.5
232	9.01	25.5	43.4	59.9	74.4	86.8	97.5	106.7	114.7	121.6	127.7	133.2	138.0	142.3	146.2	149.7
234	9.08	25.7	43.8	60.4	75.0	87.6	98.4	107.6	115.7	122.7	128.9	134.3	139.2	143.5	147.5	151.0
236	9.16	25.9	44.1	61.0	75.7	88.3	99.2	108.6	116.7	123.7	130.0	135.5	140.4	144.8	148.7	152.3
238	9.24	26.1	44.5	61.5	76.3	89.1	100.0	109.5	117.7	124.8	131.1	136.6	141.6	146.0	150.0	153.6
240	9.32	26.3	44.9	62.0	77.0	89.8	100.9	110.4	118.7	125.8	132.2	137.8	142.7	147.2	151.3	154.9
242	9.39	26.6	45.3	62.5	77.6	90.6	101.7	111.3	119.6	126.9	133.3	138.9	143.9	148.4	152.5	156.2
244	9.47	26.8	45.6	63.0	78.2	91.3	102.6	112.2	120.6	127.9	134.4	140.0	145.1	149.7	153.8	157.5
246	9.55	27.0	46.0	63.5	78.9	92.1	103.4	113.2	121.6	129.0	135.5	141.2	146.3	150.9	155.0	158.8
248	9.63	27.2	46.4	64.1	79.5	92.8	104.2	114.1	122.6	130.0	136.6	142.3	147.5	152.1	156.3	160.1
250	9.70	27.4	46.8	64.6	80.2	93.6	105.1	115.0	123.6	131.1	137.7	143.5	148.7	153.4	157.6	161.4
	.038	*.110*	*.186*	*.258*	*.320*	*.374*	*.420*	*.460*	*.494*	*.524*	*.550*	*.574*	*.594*	*.612*	*.630*	*.644*
300	11.6	32.9	56.1	77.5	96.2	112.3	126.1	138.0	148.3	157.3	165.2	172.2	178.4	184.0	189.1	193.6
	.040	*.110*	*.188*	*.258*	*.320*	*.374*	*.420*	*.460*	*.494*	*.524*	*.550*	*.574*	*.596*	*.614*	*.630*	*.646*
350	13.6	38.4	65.5	90.4	112.2	131.0	147.1	161.0	173.0	183.5	192.7	200.9	208.2	214.7	220.6	225.9
	.038	*.110*	*.186*	*.258*	*.322*	*.374*	*.420*	*.460*	*.496*	*.524*	*.552*	*.574*	*.594*	*.614*	*.630*	*.646*
400	15.5	43.9	74.8	103.3	128.3	149.7	168.1	184.0	197.8	209.7	220.3	229.6	237.9	245.4	252.1	258.2
	.040	*.110*	*.188*	*.258*	*.320*	*.374*	*.420*	*.460*	*.494*	*.524*	*.550*	*.574*	*.594*	*.612*	*.630*	*.646*
450	17.5	49.4	84.2	116.2	144.3	168.4	189.1	207.0	222.5	235.9	247.8	258.3	267.6	276.0	283.6	290.5
	.038	*.110*	*.186*	*.258*	*.320*	*.374*	*.422*	*.460*	*.494*	*.526*	*.550*	*.574*	*.596*	*.614*	*.630*	*.644*
500	19.4	54.9	93.5	129.1	160.3	187.1	210.2	230.0	247.2	262.2	275.3	287.0	297.4	306.7	315.1	322.7
	.039	*.110*	*.187*	*.259*	*.321*	*.375*	*.420*	*.460*	*.494*	*.524*	*.551*	*.574*	*.595*	*.614*	*.630*	*.646*
600	23.3	65.9	112.2	155.0	192.4	224.6	252.2	276.0	296.6	314.6	330.4	344.4	356.9	368.1	378.1	387.3
	.039	*.109*	*.187*	*.258*	*.320*	*.374*	*.420*	*.460*	*.495*	*.524*	*.550*	*.574*	*.594*	*.613*	*.631*	*.645*
700	27.2	76.8	130.9	180.8	224.4	262.0	294.2	322.0	346.1	367.0	385.4	401.8	416.3	429.4	441.2	451.8
	.039	*.110*	*.187*	*.258*	*.321*	*.374*	*.421*	*.460*	*.494*	*.524*	*.551*	*.574*	*.595*	*.613*	*.630*	*.646*
800	31.1	87.8	149.6	206.6	256.5	299.4	336.3	368.0	395.5	419.4	440.5	459.2	475.8	490.7	504.2	516.4
	.038	*.110*	*.187*	*.259*	*.321*	*.374*	*.420*	*.460*	*.494*	*.525*	*.551*	*.574*	*.595*	*.614*	*.630*	*.645*
900	34.9	98.8	168.3	232.5	288.6	336.8	378.3	414.0	444.9	471.9	495.6	516.6	535.3	552.1	567.2	580.9
	.039	*.110*	*.187*	*.258*	*.320*	*.375*	*.420*	*.460*	*.495*	*.524*	*.550*	*.574*	*.595*	*.613*	*.630*	*.646*
1000	38.8	109.8	187.0	258.3	320.6	374.3	420.3	460.0	494.4	524.3	550.6	574.0	594.8	613.4	630.2	645.5
	.039	*.110*	*.187*	*.258*	*.321*	*.374*	*.421*	*.460*	*.494*	*.524*	*.551*	*.574*	*.594*	*.614*	*.631*	*.645*
1100	42.7	120.8	205.7	284.1	352.7	411.7	462.4	506.0	543.8	576.7	605.7	631.4	654.2	674.8	693.3	710.0
	.0388	*.1098*	*.1870*	*.2583*	*.3206*	*.3743*	*.4203*	*.4600*	*.4944*	*.5243*	*.5506*	*.5740*	*.5948*	*.6134*	*.6302*	*.6455*
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	131.9	134.4	136.7	138.7	140.4	144.8	149.7	153.0	155.4	157.1	158.5	160.5	161.9	164.0	165.4	169.2	200
	133.2	135.7	138.1	140.1	141.9	146.3	151.3	154.7	157.0	158.8	160.2	162.2	163.7	165.7	167.2	171.0	202
	134.5	137.1	139.5	141.5	143.3	147.8	152.9	156.3	158.7	160.5	161.9	163.9	165.4	167.5	168.9	172.9	204
	135.8	138.4	140.8	143.0	144.8	149.3	154.5	157.9	160.4	162.2	163.6	165.7	167.2	169.3	170.7	174.8	206
	137.1	139.8	142.2	144.4	146.2	150.8	156.1	159.6	162.0	163.9	165.3	167.4	168.9	171.0	172.5	176.6	208
	138.5	141.1	143.6	145.8	147.7	152.3	157.7	161.2	163.7	165.5	167.0	169.1	170.7	172.8	174.3	178.5	210
	139.8	142.5	144.9	147.2	149.1	153.8	159.2	162.8	165.4	167.2	168.7	170.9	172.4	174.6	176.1	180.4	212
	141.1	143.8	146.3	148.6	150.6	155.3	160.8	164.5	167.0	168.9	170.4	172.6	174.2	176.3	177.8	182.2	214
	142.4	145.1	147.7	150.0	152.0	156.8	162.4	166.1	168.7	170.6	172.1	174.3	175.9	178.1	179.6	184.1	216
	143.7	146.5	149.0	151.4	153.5	158.4	164.0	167.7	170.4	172.3	173.8	176.1	177.7	179.9	181.4	186.0	218
	145.1	147.8	150.4	152.7	154.9	159.9	165.6	169.4	172.0	174.0	175.5	177.8	179.4	181.6	183.2	187.8	220
	146.4	149.2	151.8	154.1	156.3	161.4	167.2	171.0	173.7	175.7	177.3	179.5	181.2	183.4	185.0	189.7	222
	147.7	150.5	153.1	155.5	157.7	162.9	168.7	172.6	175.4	177.4	179.0	181.3	182.9	185.2	186.8	191.6	224
	149.0	151.9	154.5	156.9	159.1	164.4	170.3	174.3	177.0	179.1	180.7	183.0	184.7	187.0	188.6	193.5	226
	150.3	153.2	155.9	158.3	160.6	165.9	171.9	175.9	178.7	180.8	182.4	184.8	186.4	188.7	190.3	195.3	228
	151.6	154.6	157.2	159.7	162.0	167.4	173.5	177.5	180.4	182.5	184.1	186.5	188.2	190.5	192.1	197.2	230
	153.0	155.9	158.6	161.1	163.4	168.9	175.1	179.2	182.0	184.2	185.8	188.2	189.9	192.3	193.9	199.1	232
	154.3	157.2	160.0	162.5	164.8	170.4	176.7	180.8	183.7	185.9	187.5	190.0	191.7	194.1	195.7	201.0	234
	155.6	158.6	161.3	163.9	166.2	171.9	178.2	182.4	185.4	187.6	189.3	191.7	193.5	195.8	197.5	202.8	236
	156.9	159.9	162.7	165.2	167.6	173.4	179.8	184.1	187.1	189.3	191.0	193.4	195.2	197.6	199.3	204.7	238
	158.2	161.3	164.1	166.6	169.0	174.9	181.4	185.7	188.7	191.0	192.7	195.2	197.0	199.4	201.1	206.6	240
	159.6	162.6	165.4	168.0	170.4	176.4	183.0	187.3	190.4	192.7	194.4	196.9	198.7	201.2	202.9	208.5	242
	160.9	164.0	166.8	169.4	171.8	177.9	184.6	189.0	192.1	194.4	196.1	198.7	200.5	203.0	204.7	210.4	244
	162.2	165.3	168.2	170.8	173.2	179.4	186.2	190.6	193.7	196.0	197.8	200.4	202.2	204.7	206.5	212.2	246
	163.5	166.7	169.5	172.2	174.6	180.9	187.7	192.2	195.4	197.7	199.5	202.2	204.0	206.5	208.3	214.1	248
	164.8	168.0	170.9	173.6	176.0	182.4	189.3	193.9	197.1	199.4	201.3	203.9	205.8	208.3	210.1	216.0	250
	.660	*.672*	*.684*	*.694*	*.706*	*.730*	*.788*	*.816*	*.836*	*.850*	*.860*	*.874*	*.882*	*.894*	*.900*	*.944*	
	197.8	201.6	205.1	208.3	211.3	218.9	228.7	234.7	238.9	241.9	244.3	247.6	249.9	253.0	255.1	263.2	300
	.660	*.672*	*.684*	*.694*	*.704*	*.730*	*.762*	*.814*	*.834*	*.850*	*.862*	*.878*	*.888*	*.900*	*.906*	*.952*	
	230.8	235.2	239.3	243.0	246.5	255.4	266.8	275.4	280.6	284.4	287.4	291.5	294.3	298.0	300.4	310.8	350
	.658	*.672*	*.682*	*.694*	*.704*	*.730*	*.764*	*.786*	*.834*	*.852*	*.862*	*.880*	*.890*	*.902*	*.910*	*.954*	
	263.7	268.8	273.4	277.7	281.7	291.9	305.0	314.7	322.3	327.0	330.5	335.5	338.8	343.1	345.9	358.5	400
	.660	*.672*	*.684*	*.694*	*.704*	*.730*	*.762*	*.788*	*.806*	*.848*	*.862*	*.880*	*.892*	*.906*	*.912*	*.958*	
	296.7	302.4	307.6	312.4	316.9	328.4	343.1	354.1	362.6	369.4	373.6	379.5	383.4	388.4	391.5	406.4	450
	.660	*.672*	*.684*	*.694*	*.704*	*.730*	*.762*	*.786*	*.806*	*.822*	*.862*	*.882*	*.894*	*.908*	*.916*	*.962*	
	329.7	336.0	341.8	347.1	352.1	364.9	381.2	393.4	402.9	410.5	416.7	423.6	428.1	433.8	437.3	454.5	500
	.659	*.672*	*.684*	*.695*	*.704*	*.729*	*.762*	*.787*	*.805*	*.821*	*.834*	*.881*	*.895*	*.910*	*.919*	*.965*	
	395.6	403.2	410.2	416.6	422.5	437.8	457.4	472.1	483.4	492.6	500.1	511.7	517.6	524.8	529.2	551.0	600
	.659	*.672*	*.683*	*.694*	*.704*	*.730*	*.763*	*.787*	*.806*	*.821*	*.833*	*.853*	*.895*	*.913*	*.922*	*.969*	
	461.5	470.4	478.5	486.0	492.9	510.8	533.7	550.8	564.0	574.7	583.4	597.0	607.1	616.1	621.4	647.9	700
	.660	*.672*	*.684*	*.694*	*.704*	*.730*	*.762*	*.786*	*.806*	*.821*	*.833*	*.853*	*.867*	*.913*	*.924*	*.972*	
	527.5	537.6	546.9	555.4	563.3	583.8	609.9	629.4	644.6	656.8	666.7	682.3	693.8	707.4	713.8	745.1	800
	.659	*.672*	*.683*	*.695*	*.705*	*.730*	*.763*	*.787*	*.806*	*.820*	*.834*	*.853*	*.868*	*.915*	*.925*	*.974*	
	593.4	604.8	615.2	624.9	633.8	656.8	686.2	708.1	725.2	738.8	750.1	767.6	780.6	798.9	806.3	842.5	900
	.659	*.672*	*.684*	*.694*	*.704*	*.729*	*.762*	*.787*	*.805*	*.821*	*.833*	*.852*	*.867*	*.887*	*.926*	*.976*	
	659.3	672.0	683.6	694.3	704.2	729.7	762.4	786.8	805.7	820.9	833.4	852.8	867.3	887.6	898.9	940.1	1000
	.660	*.672*	*.684*	*.694*	*.704*	*.730*	*.762*	*.787*	*.806*	*.821*	*.834*	*.853*	*.867*	*.888*	*.927*	*.979*	
	725.3	739.2	752.0	763.7	774.6	802.7	838.6	865.5	886.3	903.0	916.8	938.1	954.0	976.4	991.6	1038.	1100
	.6593	*.6720*	*.6836*	*.6943*	*.7042*	*.7297*	*.7624*	*.7868*	*.8057*	*.8209*	*.8334*	*.8528*	*.8673*	*.8876*	*.9014*		
k \ N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.0806															
3	.135	.289														
4	.190	.426	.602													
5	.238	.568	.819	.994												
6	.286	.711	1.04	1.28	1.45											
7	.333	.853	1.27	1.57	1.79	1.95										
8	.381	.994	1.50	1.87	2.14	2.33	2.48									
9	.428	1.13	1.73	2.17	2.49	2.73	2.91	3.05								
10	.476	1.26	1.96	2.48	2.85	3.13	3.34	3.51	3.65							
11	.524	1.39	2.19	2.79	3.22	3.54	3.78	3.98	4.13	4.27						
12	.571	1.51	2.42	3.09	3.59	3.95	4.23	4.45	4.63	4.78	4.90					
13	.619	1.64	2.65	3.40	3.96	4.37	4.69	4.93	5.13	5.30	5.44	5.56				
14	.666	1.77	2.87	3.71	4.33	4.79	5.15	5.42	5.64	5.82	5.98	6.11	6.23			
15	.714	1.89	3.10	4.01	4.70	5.22	5.61	5.91	6.16	6.36	6.53	6.67	6.80	6.91		
16	.762	2.02	3.32	4.32	5.07	5.64	6.07	6.41	6.68	6.90	7.08	7.24	7.38	7.50	7.61	
17	.809	2.14	3.53	4.62	5.45	6.07	6.54	6.90	7.20	7.44	7.64	7.81	7.96	8.09	8.21	8.32
18	.857	2.27	3.74	4.93	5.82	6.49	7.01	7.41	7.73	7.99	8.20	8.39	8.55	8.69	8.82	8.93
19	.904	2.40	3.95	5.23	6.19	6.92	7.48	7.91	8.26	8.54	8.77	8.97	9.14	9.30	9.43	9.55
20	.952	2.52	4.15	5.53	6.56	7.35	7.95	8.42	8.79	9.09	9.34	9.56	9.74	9.90	10.0	10.2
21	1.00	2.65	4.36	5.83	6.93	7.77	8.42	8.92	9.32	9.65	9.92	10.1	10.3	10.5	10.7	10.8
22	1.05	2.77	4.57	6.13	7.30	8.20	8.89	9.43	9.86	10.2	10.5	10.7	11.0	11.1	11.3	11.4
23	1.09	2.90	4.78	6.43	7.67	8.63	9.36	9.94	10.4	10.8	11.1	11.3	11.6	11.8	11.9	12.1
24	1.14	3.03	4.98	6.73	8.04	9.05	9.84	10.5	10.9	11.3	11.7	11.9	12.2	12.4	12.6	12.7
25	1.19	3.15	5.19	7.03	8.40	9.48	10.3	11.0	11.5	11.9	12.2	12.5	12.8	13.0	13.2	13.4
26	1.24	3.28	5.40	7.31	8.77	9.90	10.8	11.5	12.0	12.5	12.8	13.1	13.4	13.6	13.8	14.0
27	1.29	3.40	5.61	7.59	9.14	10.3	11.3	12.0	12.6	13.0	13.4	13.7	14.0	14.3	14.5	14.7
28	1.33	3.53	5.81	7.87	9.50	10.8	11.7	12.5	13.1	13.6	14.0	14.4	14.6	14.9	15.1	15.3
29	1.38	3.66	6.02	8.15	9.86	11.2	12.2	13.0	13.7	14.2	14.6	15.0	15.3	15.5	15.8	16.0
30	1.43	3.78	6.23	8.43	10.2	11.6	12.7	13.5	14.2	14.7	15.2	15.6	15.9	16.2	16.4	16.6
31	1.48	3.91	6.44	8.71	10.6	12.0	13.1	14.0	14.7	15.3	15.8	16.2	16.5	16.8	17.1	17.3
32	1.52	4.03	6.65	8.99	11.0	12.4	13.6	14.5	15.3	15.9	16.4	16.8	17.2	17.5	17.7	18.0
33	1.57	4.16	6.85	9.27	11.3	12.9	14.1	15.1	15.8	16.5	17.0	17.4	17.8	18.1	18.4	18.6
34	1.62	4.29	7.06	9.55	11.7	13.3	14.6	15.6	16.4	17.0	17.6	18.0	18.4	18.7	19.0	19.3
35	1.67	4.41	7.27	9.84	12.0	13.7	15.0	16.1	16.9	17.6	18.2	18.7	19.1	19.4	19.7	20.0
36	1.71	4.54	7.48	10.1	12.4	14.1	15.5	16.6	17.5	18.2	18.8	19.3	19.7	20.0	20.4	20.6
37	1.76	4.66	7.68	10.4	12.7	14.5	16.0	17.1	18.0	18.8	19.4	19.9	20.3	20.7	21.0	21.3
38	1.81	4.79	7.89	10.7	13.1	15.0	16.4	17.6	18.6	19.3	20.0	20.5	21.0	21.3	21.7	22.0
39	1.86	4.92	8.10	11.0	13.4	15.4	16.9	18.1	19.1	19.9	20.6	21.1	21.6	22.0	22.3	22.6
40	1.90	5.04	8.31	11.2	13.8	15.8	17.4	18.6	19.7	20.5	21.2	21.8	22.2	22.6	23.0	23.3
41	1.95	5.17	8.51	11.5	14.1	16.2	17.8	19.1	20.2	21.1	21.8	22.4	22.9	23.3	23.7	24.0
42	2.00	5.30	8.72	11.8	14.5	16.6	18.3	19.7	20.8	21.6	22.4	23.0	23.5	24.0	24.3	24.7
43	2.05	5.42	8.93	12.1	14.8	17.0	18.8	20.2	21.3	22.2	23.0	23.6	24.2	24.6	25.0	25.4
44	2.09	5.55	9.14	12.4	15.1	17.4	19.2	20.7	21.8	22.8	23.6	24.2	24.8	25.3	25.7	26.0
45	2.14	5.67	9.35	12.6	15.5	17.8	19.7	21.2	22.4	23.4	24.2	24.9	25.4	25.9	26.3	26.7
46	2.19	5.80	9.55	12.9	15.8	18.3	20.2	21.7	22.9	23.9	24.8	25.5	26.1	26.6	27.0	27.4
47	2.24	5.93	9.76	13.2	16.2	18.7	20.6	22.2	23.5	24.5	25.4	26.1	26.7	27.2	27.7	28.1
48	2.28	6.05	9.97	13.5	16.5	19.1	21.1	22.7	24.0	25.1	26.0	26.7	27.4	27.9	28.4	28.8
49	2.33	6.18	10.2	13.8	16.9	19.5	21.5	23.2	24.6	25.7	26.6	27.4	28.0	28.6	29.0	29.4
50	2.38	6.30	10.4	14.1	17.2	19.9	22.0	23.7	25.1	26.2	27.2	28.0	28.6	29.2	29.7	30.1
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
1																.0030	1
2																.0806	2
3																.289	3
4																.602	4
5																.994	5
6																1.45	6
7																1.95	7
8																2.48	8
9																3.05	9
10																3.65	10
11																4.27	11
12																4.90	12
13																5.56	13
14																6.23	14
15																6.91	15
16																7.61	16
17																8.32	17
18	9.03															9.03	18
19	9.66	9.76														9.76	19
20	10.3	10.4	10.5													10.5	20
21	10.9	11.0	11.1	11.2												11.2	21
22	11.6	11.7	11.8	11.9	12.0											12.0	22
23	12.2	12.3	12.5	12.6	12.7											12.7	23
24	12.9	13.0	13.1	13.2	13.3											13.5	24
25	13.5	13.7	13.8	13.9	14.0	14.3										14.3	25
26	14.2	14.3	14.4	14.6	14.7	15.0										15.1	26
27	14.8	15.0	15.1	15.2	15.4	15.7										15.8	27
28	15.5	15.6	15.8	15.9	16.0	16.4										16.6	28
29	16.2	16.3	16.5	16.6	16.7	17.1										17.4	29
30	16.8	17.0	17.1	17.3	17.4	17.8	18.2									18.2	30
31	17.5	17.7	17.8	18.0	18.1	18.5	18.9									19.0	31
32	18.2	18.3	18.5	18.7	18.8	19.2	19.6									19.8	32
33	18.8	19.0	19.2	19.4	19.5	19.9	20.4									20.6	33
34	19.5	19.7	19.9	20.1	20.2	20.6	21.1									21.4	34
35	20.2	20.4	20.6	20.8	20.9	21.3	21.8	22.2								22.2	35
36	20.9	21.1	21.3	21.5	21.6	22.0	22.6	23.0								23.1	36
37	21.5	21.8	22.0	22.2	22.3	22.8	23.3	23.7								23.9	37
38	22.2	22.5	22.7	22.9	23.0	23.5	24.0	24.5								24.7	38
39	22.9	23.2	23.4	23.6	23.7	24.2	24.8	25.2								25.5	39
40	23.6	23.8	24.1	24.3	24.5	24.9	25.5	26.0	26.3							26.3	40
41	24.3	24.5	24.8	25.0	25.2	25.6	26.3	26.7	27.1							27.2	41
42	25.0	25.2	25.5	25.7	25.9	26.4	27.0	27.5	27.9							28.0	42
43	25.7	25.9	26.2	26.4	26.6	27.1	27.8	28.2	28.6							28.8	43
44	26.4	26.6	26.9	27.1	27.3	27.8	28.5	29.0	29.4							29.7	44
45	27.0	27.3	27.6	27.8	28.0	28.6	29.3	29.8	30.2	30.5						30.5	45
46	27.7	28.0	28.3	28.5	28.8	29.3	30.0	30.5	31.0	31.3						31.4	46
47	28.4	28.7	29.0	29.3	29.5	30.0	30.8	31.3	31.7	32.1						32.2	47
48	29.1	29.4	29.7	30.0	30.2	30.8	31.5	32.1	32.5	32.9						33.1	48
49	29.8	30.1	30.4	30.7	30.9	31.5	32.3	32.8	33.3	33.6						33.9	49
50	30.5	30.8	31.1	31.4	31.7	32.3	33.0	33.6	34.1	34.4	34.8					34.8	50
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	2.38	6.30	10.4	14.1	17.2	19.9	22.0	23.7	25.1	26.2	27.2	28.0	28.6	29.2	29.7	30.1
51	2.43	6.43	10.6	14.3	17.5	20.3	22.5	24.2	25.6	26.8	27.8	28.6	29.3	29.9	30.4	30.8
52	2.48	6.56	10.8	14.6	17.9	20.7	22.9	24.7	26.2	27.4	28.4	29.2	29.9	30.5	31.1	31.5
53	2.52	6.68	11.0	14.9	18.2	21.1	23.4	25.2	26.7	28.0	29.0	29.9	30.6	31.2	31.7	32.2
54	2.57	6.81	11.2	15.2	18.6	21.5	23.8	25.7	27.3	28.5	29.6	30.5	31.2	31.9	32.4	32.9
55	2.62	6.93	11.4	15.5	18.9	21.9	24.3	26.2	27.8	29.1	30.2	31.1	31.9	32.5	33.1	33.6
56	2.67	7.06	11.6	15.7	19.3	22.3	24.7	26.7	28.3	29.7	30.8	31.7	32.5	33.2	33.8	34.3
57	2.71	7.19	11.8	16.0	19.6	22.7	25.2	27.2	28.9	30.3	31.4	32.4	33.2	33.8	34.4	34.9
58	2.76	7.31	12.0	16.3	20.0	23.1	25.7	27.7	29.4	30.8	32.0	33.0	33.8	34.5	35.1	35.6
59	2.81	7.44	12.3	16.6	20.3	23.5	26.1	28.2	30.0	31.4	32.6	33.6	34.4	35.2	35.8	36.3
60	2.86	7.56	12.5	16.9	20.6	23.9	26.6	28.7	30.5	32.0	33.2	34.2	35.1	35.8	36.5	37.0
61	2.90	7.69	12.7	17.1	21.0	24.3	27.0	29.2	31.0	32.5	33.8	34.8	35.7	36.5	37.1	37.7
62	2.95	7.82	12.9	17.4	21.3	24.7	27.5	29.7	31.6	33.1	34.4	35.5	36.4	37.2	37.8	38.4
63	3.00	7.94	13.1	17.7	21.7	25.1	27.9	30.2	32.1	33.7	35.0	36.1	37.0	37.8	38.5	39.1
64	3.05	8.07	13.3	18.0	22.0	25.5	28.4	30.7	32.6	34.3	35.6	36.7	37.7	38.5	39.2	39.8
65	3.09	8.19	13.5	18.3	22.4	25.9	28.8	31.2	33.2	34.8	36.2	37.3	38.3	39.1	39.9	40.5
66	3.14	8.32	13.7	18.5	22.7	26.3	29.3	31.7	33.7	35.4	36.8	38.0	39.0	39.8	40.5	41.2
67	3.19	8.45	13.9	18.8	23.1	26.6	29.7	32.2	34.3	36.0	37.4	38.6	39.6	40.5	41.2	41.9
68	3.24	8.57	14.1	19.1	23.4	27.0	30.2	32.7	34.8	36.5	38.0	39.2	40.2	41.1	41.9	42.5
69	3.28	8.70	14.3	19.4	23.7	27.4	30.6	33.2	35.3	37.1	38.6	39.8	40.9	41.8	42.6	43.2
70	3.33	8.83	14.5	19.7	24.1	27.8	31.0	33.7	35.9	37.7	39.2	40.4	41.5	42.4	43.2	43.9
71	3.38	8.95	14.7	20.0	24.4	28.2	31.5	34.2	36.4	38.2	39.8	41.1	42.2	43.1	43.9	44.6
72	3.43	9.08	15.0	20.2	24.8	28.6	31.9	34.7	36.9	38.8	40.4	41.7	42.8	43.8	44.6	45.3
73	3.47	9.20	15.2	20.5	25.1	29.0	32.4	35.2	37.5	39.4	41.0	42.3	43.5	44.4	45.3	46.0
74	3.52	9.33	15.4	20.8	25.5	29.4	32.8	35.7	38.0	39.9	41.6	42.9	44.1	45.1	46.0	46.7
75	3.57	9.46	15.6	21.1	25.8	29.8	33.3	36.1	38.5	40.5	42.1	43.5	44.7	45.8	46.6	47.4
76	3.62	9.58	15.8	21.4	26.2	30.2	33.7	36.6	39.0	41.1	42.7	44.2	45.4	46.4	47.3	48.1
77	3.67	9.71	16.0	21.6	26.5	30.6	34.1	37.1	39.6	41.6	43.3	44.8	46.0	47.1	48.0	48.8
78	3.71	9.83	16.2	21.9	26.8	31.0	34.6	37.6	40.1	42.2	43.9	45.4	46.7	47.7	48.7	49.5
79	3.76	9.96	16.4	22.2	27.2	31.4	35.0	38.1	40.6	42.7	44.5	46.0	47.3	48.4	49.3	50.2
80	3.81	10.1	16.6	22.5	27.5	31.8	35.5	38.6	41.2	43.3	45.1	46.6	47.9	49.1	50.0	50.9
81	3.86	10.2	16.8	22.8	27.9	32.2	35.9	39.1	41.7	43.9	45.7	47.3	48.6	49.7	50.7	51.5
82	3.90	10.3	17.0	23.0	28.2	32.6	36.4	39.6	42.2	44.4	46.3	47.9	49.2	50.4	51.4	52.2
83	3.95	10.5	17.2	23.3	28.6	33.0	36.8	40.0	42.7	45.0	46.9	48.5	49.9	51.0	52.1	52.9
84	4.00	10.6	17.4	23.6	28.9	33.4	37.2	40.5	43.3	45.6	47.5	49.1	50.5	51.7	52.7	53.6
85	4.05	10.7	17.7	23.9	29.2	33.8	37.7	41.0	43.8	46.1	48.1	49.7	51.1	52.4	53.4	54.3
86	4.09	10.8	17.9	24.2	29.6	34.2	38.1	41.5	44.3	46.7	48.7	50.3	51.8	53.0	54.1	55.0
87	4.14	11.0	18.1	24.4	29.9	34.6	38.6	42.0	44.8	47.2	49.3	51.0	52.4	53.7	54.8	55.7
88	4.19	11.1	18.3	24.7	30.3	35.0	39.0	42.5	45.4	47.8	49.8	51.6	53.1	54.3	55.4	56.4
89	4.24	11.2	18.5	25.0	30.6	35.4	39.5	42.9	45.9	48.3	50.4	52.2	53.7	55.0	56.1	57.1
90	4.28	11.3	18.7	25.3	31.0	35.8	39.9	43.4	46.4	48.9	51.0	52.8	54.3	55.7	56.8	57.8
91	4.33	11.5	18.9	25.6	31.3	36.2	40.4	43.9	46.9	49.5	51.6	53.4	55.0	56.3	57.5	58.5
92	4.38	11.6	19.1	25.9	31.7	36.6	40.8	44.4	47.5	50.0	52.2	54.0	55.6	57.0	58.1	59.2
93	4.43	11.7	19.3	26.1	32.0	37.0	41.2	44.9	48.0	50.6	52.8	54.7	56.3	57.6	58.8	59.9
94	4.47	11.9	19.5	26.4	32.3	37.4	41.7	45.4	48.5	51.1	53.4	55.3	56.9	58.3	59.5	60.5
95	4.52	12.0	19.7	26.7	32.7	37.8	42.1	45.8	49.0	51.7	54.0	55.9	57.5	58.9	60.2	61.2
96	4.57	12.1	19.9	27.0	33.0	38.2	42.6	46.3	49.5	52.2	54.5	56.5	58.2	59.6	60.8	61.9
97	4.62	12.2	20.1	27.3	33.4	38.6	43.0	46.8	50.1	52.8	55.1	57.1	58.8	60.3	61.5	62.6
98	4.66	12.4	20.4	27.5	33.7	39.0	43.5	47.3	50.6	53.4	55.7	57.7	59.4	60.9	62.2	63.3
99	4.71	12.5	20.6	27.8	34.1	39.4	43.9	47.8	51.1	53.9	56.3	58.3	60.1	61.6	62.9	64.0
100	4.76	12.6	20.8	28.1	34.4	39.8	44.3	48.3	51.6	54.5	56.9	58.9	60.7	62.2	63.6	64.7
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
50	30.5	30.8	31.1	31.4	31.7	32.3	33.0	33.6	34.1	34.4	34.8					34.8	50
51	31.2	31.5	31.9	32.1	32.4	33.0	33.8	34.4	34.8	35.2	35.6					35.6	51
52	31.9	32.3	32.6	32.8	33.1	33.7	34.5	35.1	35.6	36.0	36.3					36.5	52
53	32.6	33.0	33.3	33.6	33.8	34.5	35.3	35.9	36.4	36.8	37.1					37.3	53
54	33.3	33.7	34.0	34.3	34.6	35.2	36.1	36.7	37.2	37.6	37.9					38.2	54
55	34.0	34.4	34.7	35.0	35.3	36.0	36.8	37.5	38.0	38.4	38.7					39.0	55
56	34.7	35.1	35.4	35.7	36.0	36.7	37.6	38.2	38.8	39.2	39.5					39.9	56
57	35.4	35.8	36.1	36.5	36.8	37.5	38.4	39.0	39.5	40.0	40.3					40.8	57
58	36.1	36.5	36.9	37.2	37.5	38.2	39.1	39.8	40.3	40.8	41.1					41.6	58
59	36.8	37.2	37.6	37.9	38.2	39.0	39.9	40.6	41.1	41.6	41.9					42.5	59
60	37.5	37.9	38.3	38.6	39.0	39.7	40.7	41.4	41.9	42.4	42.7	43.4				43.4	60
61	38.2	38.6	39.0	39.4	39.7	40.5	41.4	42.1	42.7	43.2	43.5	44.2				44.2	61
62	38.9	39.3	39.7	40.1	40.4	41.2	42.2	42.9	43.5	44.0	44.3	45.0				45.1	62
63	39.6	40.1	40.5	40.8	41.2	42.0	43.0	43.7	44.3	44.8	45.2	45.8				46.0	63
64	40.3	40.8	41.2	41.6	41.9	42.7	43.8	44.5	45.1	45.6	46.0	46.6				46.8	64
65	41.0	41.5	41.9	42.3	42.6	43.5	44.5	45.3	45.9	46.4	46.8	47.4				47.7	65
66	41.7	42.2	42.6	43.0	43.4	44.2	45.3	46.1	46.7	47.2	47.6	48.3				48.6	66
67	42.4	42.9	43.4	43.8	44.1	45.0	46.1	46.9	47.5	48.0	48.4	49.1				49.5	67
68	43.1	43.6	44.1	44.5	44.8	45.8	46.9	47.7	48.3	48.8	49.2	49.9				50.3	68
69	43.8	44.3	44.8	45.2	45.6	46.5	47.6	48.4	49.1	49.6	50.0	50.7				51.2	69
70	44.5	45.1	45.5	46.0	46.3	47.3	48.4	49.2	49.9	50.4	50.8	51.5	52.1			52.1	70
71	45.2	45.8	46.3	46.7	47.1	48.0	49.2	50.0	50.7	51.2	51.6	52.4	52.9			53.0	71
72	45.9	46.5	47.0	47.4	47.8	48.8	50.0	50.8	51.5	52.0	52.5	53.2	53.8			53.9	72
73	46.6	47.2	47.7	48.2	48.6	49.5	50.7	51.6	52.3	52.8	53.3	54.0	54.6			54.7	73
74	47.3	47.9	48.4	48.9	49.3	50.3	51.5	52.4	53.1	53.6	54.1	54.8	55.4			55.6	74
75	48.1	48.6	49.2	49.6	50.0	51.1	52.3	53.2	53.9	54.4	54.9	55.7	56.3			56.5	75
76	48.8	49.4	49.9	50.4	50.8	51.8	53.1	54.0	54.7	55.3	55.7	56.5	57.1			57.4	76
77	49.5	50.1	50.6	51.1	51.5	52.6	53.9	54.8	55.5	56.1	56.5	57.3	57.9			58.3	77
78	50.2	50.8	51.3	51.8	52.3	53.4	54.7	55.6	56.3	56.9	57.4	58.1	58.8			59.2	78
79	50.9	51.5	52.1	52.6	53.0	54.1	55.4	56.4	57.1	57.7	58.2	59.0	59.6			60.1	79
80	51.6	52.2	52.8	53.3	53.8	54.9	56.2	57.2	57.9	58.5	59.0	59.8	60.4			61.0	80
81	52.3	52.9	53.5	54.0	54.5	55.6	57.0	58.0	58.7	59.3	59.8	60.6	61.3			61.8	81
82	53.0	53.7	54.2	54.8	55.2	56.4	57.8	58.8	59.5	60.1	60.6	61.5	62.1			62.7	82
83	53.7	54.4	55.0	55.5	56.0	57.2	58.6	59.6	60.3	61.0	61.5	62.3	62.9			63.6	83
84	54.4	55.1	55.7	56.2	56.7	57.9	59.4	60.4	61.2	61.8	62.3	63.1	63.8			64.5	84
85	55.1	55.8	56.4	57.0	57.5	58.7	60.1	61.2	62.0	62.6	63.1	64.0	64.6			65.4	85
86	55.8	56.5	57.2	57.7	58.2	59.5	60.9	62.0	62.8	63.4	63.9	64.8	65.5			66.3	86
87	56.5	57.2	57.9	58.5	59.0	60.2	61.7	62.8	63.6	64.2	64.8	65.6	66.3			67.2	87
88	57.2	58.0	58.6	59.2	59.7	61.0	62.5	63.6	64.4	65.1	65.6	66.5	67.1			68.1	88
89	57.9	58.7	59.3	59.9	60.5	61.8	63.3	64.4	65.2	65.9	66.4	67.3	68.0			69.0	89
90	58.6	59.4	60.1	60.7	61.2	62.5	64.1	65.2	66.0	66.7	67.3	68.1	68.8	69.9		69.9	90
91	59.3	60.1	60.8	61.4	61.9	63.3	64.9	66.0	66.8	67.5	68.1	69.0	69.7	70.7		70.8	91
92	60.1	60.8	61.5	62.1	62.7	64.1	65.7	66.8	67.7	68.3	68.9	69.8	70.5	71.6		71.7	92
93	60.8	61.6	62.3	62.9	63.4	64.8	66.5	67.6	68.5	69.2	69.7	70.7	71.4	72.5		72.6	93
94	61.5	62.3	63.0	63.6	64.2	65.6	67.2	68.4	69.3	70.0	70.6	71.5	72.2	73.3		73.5	94
95	62.2	63.0	63.7	64.4	64.9	66.4	68.0	69.2	70.1	70.8	71.4	72.3	73.1	74.2		74.4	95
96	62.9	63.7	64.4	65.1	65.7	67.1	68.8	70.0	70.9	71.6	72.2	73.2	73.9	75.0		75.3	96
97	63.6	64.4	65.2	65.8	66.4	67.9	69.6	70.8	71.7	72.5	73.1	74.0	74.8	75.9		76.2	97
98	64.3	65.1	65.9	66.6	67.2	68.7	70.4	71.6	72.6	73.3	73.9	74.9	75.6	76.7		77.1	98
99	65.0	65.9	66.6	67.3	67.9	69.4	71.2	72.4	73.4	74.1	74.7	75.7	76.4	77.6		78.0	99
100	65.7	66.6	67.4	68.1	68.7	70.2	72.0	73.3	74.2	74.9	75.6	76.5	77.3	78.4		78.9	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
	k																

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	4.76	12.6	20.8	28.1	34.4	39.8	44.3	48.3	51.6	54.5	56.9	58.9	60.7	62.2	63.6	64.7
102	4.86	12.9	21.2	28.7	35.1	40.6	45.2	49.2	52.7	55.6	58.1	60.2	62.0	63.5	64.9	66.1
104	4.95	13.1	21.6	29.2	35.8	41.4	46.1	50.2	53.7	56.7	59.2	61.4	63.3	64.9	66.2	67.5
106	5.05	13.4	22.0	29.8	36.5	42.2	47.0	51.1	54.7	57.8	60.4	62.6	64.5	66.2	67.6	68.8
108	5.14	13.6	22.4	30.4	37.2	43.0	47.9	52.1	55.7	58.9	61.5	63.8	65.8	67.5	68.9	70.2
110	5.24	13.9	22.8	30.9	37.9	43.8	48.8	53.1	56.8	60.0	62.7	65.0	67.1	68.8	70.3	71.6
112	5.33	14.1	23.3	31.5	38.5	44.5	49.7	54.0	57.8	61.1	63.9	66.3	68.3	70.1	71.6	73.0
114	5.43	14.4	23.7	32.0	39.2	45.3	50.6	55.0	58.8	62.2	65.0	67.5	69.6	71.4	73.0	74.4
116	5.52	14.6	24.1	32.6	39.9	46.1	51.4	56.0	59.9	63.3	66.2	68.7	70.8	72.7	74.3	75.7
118	5.62	14.9	24.5	33.2	40.6	46.9	52.3	56.9	60.9	64.3	67.3	69.9	72.1	74.0	75.7	77.1
120	5.71	15.1	24.9	33.7	41.3	47.7	53.2	57.9	61.9	65.4	68.5	71.1	73.4	75.3	77.0	78.5
122	5.81	15.4	25.3	34.3	42.0	48.5	54.1	58.9	63.0	66.5	69.6	72.3	74.6	76.6	78.3	79.9
124	5.90	15.6	25.8	34.8	42.7	49.3	55.0	59.8	64.0	67.6	70.8	73.5	75.9	77.9	79.7	81.2
126	6.00	15.9	26.2	35.4	43.4	50.1	55.9	60.8	65.0	68.7	71.9	74.7	77.1	79.2	81.0	82.6
128	6.09	16.1	26.6	36.0	44.0	50.9	56.8	61.8	66.1	69.8	73.1	75.9	78.4	80.5	82.4	84.0
130	6.19	16.4	27.0	36.5	44.7	51.7	57.6	62.7	67.1	70.9	74.2	77.1	79.6	81.8	83.7	85.3
132	6.28	16.6	27.4	37.1	45.4	52.5	58.5	63.7	68.1	72.0	75.3	78.3	80.9	83.1	85.0	86.7
134	6.38	16.9	27.8	37.7	46.1	53.3	59.4	64.7	69.2	73.1	76.5	79.5	82.1	84.4	86.4	88.1
136	6.47	17.1	28.2	38.2	46.8	54.1	60.3	65.6	70.2	74.2	77.6	80.7	83.4	85.7	87.7	89.5
138	6.57	17.4	28.7	38.8	47.5	54.9	61.2	66.6	71.2	75.3	78.8	81.9	84.6	87.0	89.0	90.8
140	6.66	17.7	29.1	39.3	48.2	55.7	62.1	67.6	72.3	76.3	79.9	83.1	85.9	88.3	90.4	92.2
142	6.76	17.9	29.5	39.9	48.9	56.5	63.0	68.5	73.3	77.4	81.1	84.3	87.1	89.6	91.7	93.5
144	6.85	18.2	29.9	40.5	49.6	57.3	63.9	69.5	74.3	78.5	82.2	85.4	88.3	90.8	93.0	94.9
146	6.95	18.4	30.3	41.0	50.2	58.1	64.7	70.4	75.4	79.6	83.3	86.6	89.6	92.1	94.3	96.3
148	7.04	18.7	30.7	41.6	50.9	58.9	65.6	71.4	76.4	80.7	84.5	87.8	90.8	93.4	95.7	97.6
150	7.14	18.9	31.2	42.2	51.6	59.7	66.5	72.4	77.4	81.8	85.6	89.0	92.0	94.7	97.0	99.0
152	7.23	19.2	31.6	42.7	52.3	60.5	67.4	73.3	78.5	82.9	86.8	90.2	93.2	96.0	98.3	100.4
154	7.33	19.4	32.0	43.3	53.0	61.3	68.3	74.3	79.5	84.0	87.9	91.4	94.5	97.2	99.6	101.7
156	7.43	19.7	32.4	43.8	53.7	62.1	69.2	75.3	80.5	85.1	89.0	92.6	95.7	98.5	101.0	103.1
158	7.52	19.9	32.8	44.4	54.4	62.8	70.1	76.2	81.6	86.2	90.2	93.8	96.9	99.8	102.3	104.4
160	7.62	20.2	33.2	45.0	55.1	63.6	70.9	77.2	82.6	87.2	91.3	94.9	98.1	101.0	103.6	105.8
162	7.71	20.4	33.6	45.5	55.7	64.4	71.8	78.2	83.6	88.3	92.5	96.1	99.4	102.3	104.9	107.2
164	7.81	20.7	34.1	46.1	56.4	65.2	72.7	79.1	84.7	89.4	93.6	97.3	100.6	103.5	106.2	108.5
166	7.90	20.9	34.5	46.6	57.1	66.0	73.6	80.1	85.7	90.5	94.8	98.5	101.8	104.8	107.5	109.9
168	8.00	21.2	34.9	47.2	57.8	66.8	74.5	81.1	86.7	91.6	95.9	99.7	103.1	106.1	108.8	111.2
170	8.09	21.4	35.3	47.8	58.5	67.6	75.4	82.0	87.8	92.7	97.0	100.9	104.3	107.3	110.1	112.6
172	8.19	21.7	35.7	48.3	59.2	68.4	76.3	83.0	88.8	93.8	98.2	102.1	105.5	108.6	111.4	113.9
174	8.28	21.9	36.1	48.9	59.9	69.2	77.2	84.0	89.8	94.9	99.3	103.2	106.7	109.9	112.7	115.2
176	8.38	22.2	36.6	49.5	60.6	70.0	78.0	84.9	90.9	96.0	100.5	104.4	108.0	111.1	114.0	116.5
178	8.47	22.4	37.0	50.0	61.3	70.8	78.9	85.9	91.9	97.1	101.6	105.6	109.2	112.4	115.3	117.9
180	8.57	22.7	37.4	50.6	61.9	71.6	79.8	86.9	92.9	98.2	102.7	106.8	110.4	113.6	116.6	119.2
182	8.66	22.9	37.8	51.1	62.6	72.4	80.7	87.8	93.9	99.2	103.9	108.0	111.6	114.9	117.9	120.5
184	8.76	23.2	38.2	51.7	63.3	73.2	81.6	88.8	95.0	100.3	105.0	109.2	112.9	116.2	119.1	121.8
186	8.85	23.4	38.6	52.3	64.0	74.0	82.5	89.7	96.0	101.4	106.2	110.4	114.1	117.4	120.4	123.2
188	8.95	23.7	39.0	52.8	64.7	74.8	83.4	90.7	97.0	102.5	107.3	111.6	115.3	118.7	121.7	124.5
190	9.04	24.0	39.5	53.4	65.4	75.6	84.3	91.7	98.1	103.6	108.5	112.7	116.6	120.0	123.0	125.8
192	9.14	24.2	39.9	54.0	66.1	76.4	85.1	92.6	99.1	104.7	109.6	113.9	117.8	121.2	124.3	127.1
194	9.23	24.5	40.3	54.5	66.8	77.2	86.0	93.6	100.1	105.8	110.7	115.1	119.0	122.5	125.6	128.5
196	9.33	24.7	40.7	55.1	67.4	78.0	86.9	94.6	101.2	106.9	111.9	116.3	120.2	123.8	126.9	129.8
198	9.42	25.0	41.1	55.6	68.1	78.8	87.8	95.5	102.2	108.0	113.0	117.5	121.5	125.0	128.2	131.1
200	9.52	25.2	41.5	56.2	68.8	79.6	88.7	96.5	103.2	109.1	114.2	118.7	122.7	126.3	129.5	132.4
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
100	65.7	66.6	67.4	68.1	68.7	70.2	72.0	73.3	74.2	74.9	75.6	76.5	77.3	78.4		78.9	100
102	67.1	68.0	68.8	69.5	70.2	71.7	73.6	74.9	75.8	76.6	77.2	78.2	79.0	80.2		80.7	102
104	68.5	69.4	70.3	71.0	71.7	73.3	75.2	76.5	77.5	78.3	78.9	79.9	80.7	81.9		82.5	104
106	69.9	70.9	71.7	72.5	73.2	74.8	76.8	78.1	79.1	79.9	80.6	81.6	82.4	83.6		84.3	106
108	71.3	72.3	73.2	74.0	74.7	76.4	78.3	79.7	80.8	81.6	82.2	83.3	84.1	85.3		86.2	108
110	72.7	73.8	74.6	75.4	76.2	77.9	79.9	81.4	82.4	83.2	83.9	85.0	85.8	87.1	88.0	88.0	110
112	74.2	75.2	76.1	76.9	77.7	79.4	81.5	83.0	84.1	84.9	85.6	86.7	87.5	88.8	89.7	89.8	112
114	75.6	76.6	77.6	78.4	79.1	81.0	83.1	84.6	85.7	86.6	87.3	88.4	89.2	90.5	91.5	91.6	114
116	77.0	78.1	79.0	79.9	80.6	82.5	84.7	86.2	87.4	88.2	89.0	90.1	90.9	92.2	93.2	93.5	116
118	78.4	79.5	80.5	81.4	82.1	84.1	86.3	87.9	89.0	89.9	90.6	91.8	92.7	94.0	95.0	95.3	118
120	79.8	80.9	81.9	82.8	83.6	85.6	87.9	89.5	90.7	91.6	92.3	93.5	94.4	95.7	96.7	97.1	120
122	81.2	82.4	83.4	84.3	85.1	87.2	89.5	91.1	92.3	93.2	94.0	95.2	96.1	97.4	98.4	98.9	122
124	82.6	83.8	84.8	85.8	86.6	88.7	91.1	92.8	94.0	94.9	95.7	96.9	97.8	99.2	100.2	100.8	124
126	84.0	85.2	86.3	87.3	88.1	90.2	92.7	94.4	95.6	96.6	97.4	98.6	99.5	100.9	101.9	102.6	126
128	85.4	86.6	87.8	88.7	89.6	91.8	94.3	96.0	97.3	98.3	99.1	100.3	101.3	102.7	103.7	104.5	128
130	86.8	88.1	89.2	90.2	91.1	93.3	95.9	97.7	98.9	99.9	100.8	102.0	103.0	104.4	105.4	106.3	130
132	88.2	89.5	90.7	91.7	92.6	94.9	97.5	99.3	100.6	101.6	102.4	103.7	104.7	106.1	107.2	108.1	132
134	89.6	90.9	92.1	93.2	94.1	96.4	99.1	100.9	102.3	103.3	104.1	105.4	106.4	107.9	109.0	110.0	134
136	91.0	92.4	93.6	94.6	95.6	98.0	100.7	102.6	103.9	105.0	105.8	107.2	108.2	109.6	110.7	111.8	136
138	92.4	93.8	95.0	96.1	97.1	99.5	102.3	104.2	105.6	106.7	107.5	108.9	109.9	111.4	112.5	113.7	138
140	93.8	95.2	96.5	97.6	98.6	101.1	103.9	105.8	107.3	108.3	109.2	110.6	111.6	113.1	114.2	115.5	140
142	95.2	96.6	97.9	99.1	100.1	102.6	105.5	107.5	108.9	110.0	110.9	112.3	113.3	114.9	116.0	117.4	142
144	96.6	98.1	99.4	100.5	101.6	104.1	107.1	109.1	110.6	111.7	112.6	114.0	115.1	116.6	117.8	119.2	144
146	98.0	99.5	100.8	102.0	103.1	105.7	108.7	110.8	112.2	113.4	114.3	115.7	116.8	118.4	119.5	121.1	146
148	99.4	100.9	102.3	103.5	104.6	107.2	110.3	112.4	113.9	115.1	116.0	117.5	118.5	120.1	121.3	122.9	148
150	100.8	102.3	103.7	105.0	106.1	108.8	111.9	114.0	115.6	116.8	117.7	119.2	120.3	121.9	123.1	124.8	150
152	102.2	103.8	105.2	106.4	107.6	110.3	113.5	115.7	117.3	118.5	119.4	120.9	122.0	123.6	124.8	126.6	152
154	103.6	105.2	106.6	107.9	109.1	111.9	115.1	117.3	118.9	120.1	121.1	122.6	123.8	125.4	126.6	128.5	154
156	104.9	106.6	108.1	109.4	110.6	113.4	116.7	119.0	120.6	121.8	122.8	124.4	125.5	127.1	128.4	130.3	156
158	106.3	108.0	109.5	110.9	112.0	115.0	118.3	120.6	122.3	123.5	124.5	126.1	127.2	128.9	130.1	132.2	158
160	107.7	109.4	111.0	112.3	113.5	116.5	119.9	122.3	123.9	125.2	126.2	127.8	129.0	130.7	131.9	134.0	160
162	109.1	110.9	112.4	113.8	115.0	118.1	121.5	123.9	125.6	126.9	128.0	129.5	130.7	132.4	133.7	135.9	162
164	110.5	112.3	113.9	115.3	116.5	119.6	123.2	125.5	127.3	128.6	129.7	131.3	132.5	134.2	135.4	137.8	164
166	111.9	113.7	115.3	116.7	118.0	121.1	124.8	127.2	129.0	130.3	131.4	133.0	134.2	136.0	137.2	139.6	166
168	113.3	115.1	116.7	118.2	119.5	122.7	126.4	128.8	130.6	132.0	133.1	134.7	135.9	137.7	139.0	141.5	168
170	114.7	116.5	118.2	119.7	121.0	124.2	128.0	130.5	132.3	133.7	134.8	136.5	137.7	139.5	140.8	143.4	170
172	116.0	117.9	119.6	121.1	122.5	125.8	129.6	132.1	134.0	135.4	136.5	138.2	139.4	141.2	142.6	145.2	172
174	117.4	119.4	121.1	122.6	124.0	127.3	131.2	133.8	135.7	137.1	138.2	139.9	141.2	143.0	144.3	147.1	174
176	118.8	120.8	122.5	124.1	125.5	128.9	132.8	135.4	137.3	138.8	139.9	141.7	142.9	144.8	146.1	149.0	176
178	120.2	122.2	123.9	125.5	126.9	130.4	134.4	137.1	139.0	140.5	141.6	143.4	144.7	146.5	147.9	150.8	178
180	121.6	123.6	125.4	127.0	128.4	131.9	136.0	138.7	140.7	142.2	143.3	145.1	146.4	148.3	149.7	152.7	180
182	122.9	125.0	126.8	128.5	129.9	133.5	137.6	140.4	142.4	143.9	145.1	146.9	148.2	150.1	151.5	154.6	182
184	124.3	126.4	128.3	129.9	131.4	135.0	139.2	142.0	144.0	145.6	146.8	148.6	149.9	151.9	153.2	156.4	184
186	125.6	127.8	129.7	131.4	132.9	136.6	140.8	143.7	145.7	147.3	148.5	150.3	151.7	153.6	155.0	158.3	186
188	127.0	129.2	131.1	132.8	134.4	138.1	142.4	145.3	147.4	149.0	150.2	152.1	153.4	155.4	156.8	160.2	188
190	128.3	130.6	132.6	134.3	135.9	139.7	144.0	147.0	149.1	150.7	151.9	153.8	155.2	157.2	158.6	162.1	190
192	129.7	132.0	134.0	135.8	137.3	141.2	145.6	148.6	150.8	152.4	153.6	155.6	157.0	159.0	160.4	163.9	192
194	131.0	133.4	135.4	137.2	138.8	142.7	147.3	150.3	152.4	154.1	155.4	157.3	158.7	160.7	162.2	165.8	194
196	132.4	134.8	136.9	138.7	140.3	144.3	148.9	151.9	154.1	155.8	157.1	159.0	160.5	162.5	164.0	167.7	196
198	133.7	136.1	138.3	140.1	141.8	145.8	150.5	153.6	155.8	157.5	158.8	160.8	162.2	164.3	165.7	169.6	198
200	135.1	137.5	139.7	141.6	143.3	147.4	152.1	155.2	157.5	159.2	160.5	162.5	164.0	166.1	167.5	171.4	200
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	9.52	25.2	41.5	56.2	68.8	79.6	88.7	96.5	103.2	109.1	114.2	118.7	122.7	126.3	129.5	132.4
202	9.61	25.5	41.9	56.8	69.5	80.3	89.6	97.5	104.3	110.1	115.3	119.9	123.9	127.5	130.8	133.8
204	9.71	25.7	42.4	57.3	70.2	81.1	90.5	98.4	105.3	111.2	116.4	121.0	125.1	128.8	132.1	135.1
206	9.81	26.0	42.8	57.9	70.9	81.9	91.3	99.4	106.3	112.3	117.6	122.2	126.4	130.1	133.4	136.4
208	9.90	26.2	43.2	58.5	71.6	82.7	92.2	100.4	107.4	113.4	118.7	123.4	127.6	131.3	134.7	137.7
210	10.0	26.5	43.6	59.0	72.3	83.5	93.1	101.3	108.4	114.5	119.9	124.6	128.8	132.6	136.0	139.1
212	10.1	26.7	44.0	59.6	73.0	84.3	94.0	102.3	109.4	115.6	121.0	125.8	130.0	133.9	137.3	140.4
214	10.2	27.0	44.4	60.1	73.6	85.1	94.9	103.3	110.5	116.7	122.2	127.0	131.3	135.1	138.6	141.7
216	10.3	27.2	44.9	60.7	74.3	85.9	95.8	104.2	111.5	117.8	123.3	128.2	132.5	136.4	139.9	143.0
218	10.4	27.5	45.3	61.3	75.0	86.7	96.7	105.2	112.5	118.9	124.4	129.4	133.7	137.6	141.2	144.3
220	10.5	27.7	45.7	61.8	75.7	87.5	97.6	106.2	113.6	120.0	125.6	130.5	135.0	138.9	142.5	145.7
222	10.6	28.0	46.1	62.4	76.4	88.3	98.4	107.1	114.6	121.1	126.7	131.7	136.2	140.2	143.8	147.0
224	10.7	28.2	46.5	62.9	77.1	89.1	99.3	108.1	115.6	122.1	127.9	132.9	137.4	141.4	145.0	148.3
226	10.8	28.5	46.9	63.5	77.8	89.9	100.2	109.0	116.7	123.2	129.0	134.1	138.6	142.7	146.3	149.6
228	10.9	28.7	47.3	64.1	78.5	90.7	101.1	110.0	117.7	124.3	130.1	135.3	139.9	144.0	147.6	151.0
230	10.9	29.0	47.8	64.6	79.1	91.5	102.0	111.0	118.7	125.4	131.3	136.5	141.1	145.2	148.9	152.3
232	11.0	29.2	48.2	65.2	79.8	92.3	102.9	111.9	119.8	126.5	132.4	137.7	142.3	146.5	150.2	153.6
234	11.1	29.5	48.6	65.8	80.5	93.1	103.8	112.9	120.8	127.6	133.6	138.8	143.5	147.7	151.5	154.9
236	11.2	29.8	49.0	66.3	81.2	93.9	104.6	113.9	121.8	128.7	134.7	140.0	144.8	149.0	152.8	156.3
238	11.3	30.0	49.4	66.9	81.9	94.7	105.5	114.8	122.9	129.8	135.9	141.2	146.0	150.3	154.1	157.6
240	11.4	30.3	49.8	67.4	82.6	95.5	106.4	115.8	123.9	130.9	137.0	142.4	147.2	151.5	155.4	158.9
242	11.5	30.5	50.3	68.0	83.3	96.3	107.3	116.8	124.9	132.0	138.1	143.6	148.5	152.8	156.7	160.2
244	11.6	30.8	50.7	68.6	84.0	97.1	108.2	117.7	126.0	133.1	139.3	144.8	149.7	154.1	158.0	161.6
246	11.7	31.0	51.1	69.1	84.7	97.8	109.1	118.7	127.0	134.1	140.4	146.0	150.9	155.3	159.3	162.9
248	11.8	31.3	51.5	69.7	85.3	98.6	110.0	119.7	128.0	135.2	141.6	147.2	152.1	156.6	160.6	164.2
250	11.9	31.5	51.9	70.3	86.0	99.4	110.9	120.6	129.0	136.3	142.7	148.3	153.4	157.8	161.9	165.5
	.048	*.126*	*.208*	*.280*	*.344*	*.398*	*.442*	*.484*	*.518*	*.546*	*.570*	*.594*	*.612*	*.632*	*.648*	*.662*
300	14.3	37.8	62.3	84.3	103.2	119.3	133.0	144.8	154.9	163.6	171.2	178.0	184.0	189.4	194.3	198.6
	.048	*.126*	*.208*	*.282*	*.344*	*.398*	*.444*	*.482*	*.516*	*.546*	*.572*	*.594*	*.614*	*.632*	*.646*	*.664*
350	16.7	44.1	72.7	98.4	120.4	139.2	155.2	168.9	180.7	190.9	199.8	207.7	214.7	221.0	226.6	231.8
	.046	*.126*	*.208*	*.280*	*.344*	*.398*	*.444*	*.482*	*.516*	*.544*	*.570*	*.592*	*.614*	*.632*	*.648*	*.662*
400	19.0	50.4	83.1	112.4	137.6	159.1	177.4	193.0	206.5	218.1	228.3	237.3	245.4	252.6	259.0	264.9
	.048	*.126*	*.208*	*.282*	*.344*	*.398*	*.442*	*.482*	*.516*	*.546*	*.572*	*.594*	*.612*	*.630*	*.648*	*.662*
450	21.4	56.7	93.5	126.5	154.8	179.0	199.5	217.1	232.3	245.4	256.9	267.0	276.0	284.1	291.4	298.0
	.048	*.126*	*.206*	*.280*	*.346*	*.398*	*.444*	*.484*	*.516*	*.544*	*.570*	*.594*	*.614*	*.632*	*.648*	*.662*
500	23.8	63.0	103.8	140.5	172.1	198.9	221.7	241.3	258.1	272.6	285.4	296.7	306.7	315.7	323.8	331.1
	.048	*.126*	*.208*	*.281*	*.344*	*.398*	*.444*	*.482*	*.516*	*.546*	*.571*	*.593*	*.614*	*.631*	*.647*	*.662*
600	28.6	75.6	124.6	168.6	206.5	238.7	266.1	289.5	309.7	327.2	342.5	356.0	368.1	378.8	388.5	397.3
	.047	*.127*	*.208*	*.281*	*.344*	*.397*	*.443*	*.483*	*.516*	*.545*	*.571*	*.594*	*.613*	*.632*	*.648*	*.662*
700	33.3	88.3	145.4	196.7	240.9	278.4	310.4	337.8	361.3	381.7	399.6	415.4	429.4	442.0	453.3	463.5
	.048	*.126*	*.207*	*.281*	*.344*	*.398*	*.443*	*.482*	*.517*	*.545*	*.571*	*.593*	*.613*	*.631*	*.647*	*.662*
800	38.1	100.9	166.1	224.8	275.3	318.2	354.7	386.0	413.0	436.2	456.7	474.7	490.7	505.1	518.0	529.7
	.047	*.126*	*.208*	*.281*	*.344*	*.398*	*.444*	*.483*	*.516*	*.546*	*.570*	*.593*	*.614*	*.631*	*.648*	*.662*
900	42.8	113.5	186.9	252.9	309.7	358.0	399.1	434.3	464.6	490.8	513.7	534.0	552.1	568.2	582.8	595.9
	.048	*.126*	*.208*	*.281*	*.344*	*.398*	*.443*	*.482*	*.516*	*.545*	*.571*	*.594*	*.613*	*.632*	*.647*	*.663*
1000	47.6	126.1	207.7	281.0	344.1	397.8	443.4	482.5	516.2	545.3	570.8	593.4	613.4	631.4	647.5	662.2
	.048	*.126*	*.207*	*.281*	*.344*	*.397*	*.444*	*.483*	*.516*	*.545*	*.571*	*.593*	*.614*	*.631*	*.648*	*.662*
1100	52.4	138.7	228.4	309.1	378.5	437.5	487.8	530.8	567.8	599.8	627.9	652.7	674.8	694.5	712.3	728.4
	.0476	*.1261*	*.2077*	*.2810*	*.3441*	*.3978*	*.4434*	*.4825*	*.5162*	*.5453*	*.5708*	*.5934*	*.6134*	*.6314*	*.6475*	*.6622*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
200	135.1	137.5	139.7	141.6	143.3	147.4	152.1	155.2	157.5	159.2	160.5	162.5	164.0	166.1	167.5	171.4
202	136.4	138.9	141.1	143.0	144.7	148.9	153.7	156.9	159.2	160.9	162.2	164.3	165.7	167.8	169.3	173.3
204	137.8	140.3	142.5	144.5	146.2	150.4	155.3	158.5	160.8	162.6	164.0	166.0	167.5	169.6	171.1	175.2
206	139.1	141.6	143.9	146.0	147.7	152.0	156.9	160.2	162.5	164.3	165.7	167.8	169.3	171.4	172.9	177.1
208	140.5	143.0	145.3	147.4	149.2	153.5	158.5	161.8	164.2	166.0	167.4	169.5	171.0	173.2	174.7	179.0
210	141.8	144.4	146.7	148.9	150.7	155.0	160.1	163.5	165.9	167.7	169.1	171.2	172.8	175.0	176.5	180.9
212	143.2	145.8	148.1	150.3	152.1	156.6	161.7	165.1	167.6	169.4	170.9	173.0	174.5	176.7	178.3	182.7
214	144.5	147.1	149.5	151.7	153.6	158.1	163.3	166.8	169.3	171.1	172.6	174.7	176.3	178.5	180.1	184.6
216	145.9	148.5	150.9	153.1	155.1	159.6	164.9	168.4	170.9	172.8	174.3	176.5	178.1	180.3	181.9	186.5
218	147.2	149.9	152.3	154.5	156.6	161.2	166.5	170.1	172.6	174.5	176.0	178.2	179.8	182.1	183.7	188.4
220	148.6	151.3	153.7	156.0	158.0	162.7	168.1	171.7	174.3	176.2	177.7	180.0	181.6	183.9	185.5	190.3
222	149.9	152.6	155.1	157.4	159.5	164.3	169.7	173.4	176.0	177.9	179.5	181.7	183.4	185.7	187.3	192.2
224	151.3	154.0	156.5	158.8	160.9	165.8	171.3	175.1	177.7	179.7	181.2	183.5	185.1	187.4	189.1	194.1
226	152.6	155.4	157.9	160.2	162.3	167.3	172.9	176.7	179.4	181.4	182.9	185.2	186.9	189.2	190.9	195.9
228	154.0	156.8	159.3	161.6	163.8	168.9	174.6	178.4	181.1	183.1	184.6	187.0	188.7	191.0	192.7	197.8
230	155.4	158.1	160.7	163.0	165.2	170.4	176.2	180.0	182.7	184.8	186.4	188.7	190.4	192.8	194.5	199.7
232	156.7	159.5	162.1	164.5	166.7	171.9	177.8	181.7	184.4	186.5	188.1	190.5	192.2	194.6	196.3	201.6
234	158.1	160.9	163.5	165.9	168.1	173.4	179.4	183.3	186.1	188.2	189.8	192.2	194.0	196.4	198.1	203.5
236	159.4	162.3	164.9	167.3	169.5	175.0	181.0	185.0	187.8	189.9	191.6	194.0	195.7	198.2	199.9	205.4
238	160.8	163.6	166.3	168.7	171.0	176.5	182.6	186.6	189.5	191.6	193.3	195.7	197.5	200.0	201.7	207.3
240	162.1	165.0	167.7	170.1	172.4	178.0	184.2	188.3	191.2	193.3	195.0	197.5	199.3	201.7	203.5	209.2
242	163.5	166.4	169.1	171.6	173.8	179.6	185.8	189.9	192.9	195.0	196.7	199.2	201.0	203.5	205.3	211.1
244	164.8	167.8	170.5	173.0	175.3	181.1	187.4	191.6	194.5	196.8	198.5	201.0	202.8	205.3	207.1	213.0
246	166.2	169.1	171.9	174.4	176.7	182.6	189.0	193.2	196.2	198.5	200.2	202.8	204.6	207.1	208.9	214.9
248	167.5	170.5	173.3	175.8	178.1	184.2	190.6	194.9	197.9	200.2	201.9	204.5	206.4	208.9	210.7	216.8
250	168.9	171.9	174.7	177.2	179.6	185.7	192.2	196.5	199.6	201.9	203.7	206.3	208.1	210.7	212.5	218.7
	.674	*.688*	*.698*	*.710*	*.718*	*.742*	*.800*	*.826*	*.844*	*.856*	*.866*	*.880*	*.890*	*.900*	*.906*	*.950*
300	202.6	206.3	209.6	212.7	215.5	222.8	232.2	237.8	241.8	244.7	247.0	250.3	252.6	255.7	257.8	266.2
	.676	*.686*	*.698*	*.708*	*.718*	*.744*	*.774*	*.824*	*.844*	*.858*	*.868*	*.882*	*.892*	*.904*	*.910*	*.958*
350	236.4	240.6	244.5	248.1	251.4	260.0	270.9	279.0	284.0	287.6	290.4	294.4	297.2	300.9	303.3	314.1
	.676	*.688*	*.700*	*.710*	*.718*	*.742*	*.774*	*.798*	*.842*	*.858*	*.870*	*.886*	*.896*	*.908*	*.914*	*.960*
400	270.2	275.0	279.5	283.6	287.3	297.1	309.6	318.9	326.1	330.5	333.9	338.7	342.0	346.3	349.0	362.1
	.674	*.688*	*.698*	*.708*	*.718*	*.742*	*.772*	*.796*	*.814*	*.858*	*.870*	*.886*	*.898*	*.910*	*.918*	*.964*
450	303.9	309.4	314.4	319.0	323.2	334.2	348.2	358.7	366.8	373.4	377.4	383.0	386.9	391.8	394.9	410.3
	.676	*.688*	*.698*	*.708*	*.720*	*.744*	*.774*	*.798*	*.816*	*.830*	*.868*	*.888*	*.898*	*.912*	*.920*	*.968*
500	337.7	343.8	349.3	354.4	359.2	371.4	386.9	398.6	407.6	414.9	420.8	427.4	431.8	437.4	440.9	458.7
	.676	*.687*	*.699*	*.709*	*.718*	*.742*	*.774*	*.797*	*.815*	*.829*	*.842*	*.887*	*.900*	*.915*	*.923*	*.970*
600	405.3	412.5	419.2	425.3	431.0	445.6	464.3	478.3	489.1	497.8	505.0	516.1	521.8	528.9	533.2	555.7
	.675	*.688*	*.699*	*.709*	*.718*	*.743*	*.774*	*.797*	*.816*	*.830*	*.842*	*.861*	*.901*	*.917*	*.926*	*.974*
700	472.8	481.3	489.1	496.2	502.8	519.9	541.7	558.0	570.7	580.8	589.2	602.2	611.9	620.6	625.8	653.1
	.676	*.688*	*.698*	*.709*	*.719*	*.743*	*.774*	*.797*	*.815*	*.830*	*.841*	*.860*	*.874*	*.918*	*.928*	*.976*
800	540.4	550.1	558.9	567.1	574.7	594.2	619.1	637.7	652.2	663.8	673.3	688.2	699.3	712.4	718.6	750.7
	.675	*.687*	*.699*	*.709*	*.718*	*.743*	*.774*	*.797*	*.815*	*.830*	*.842*	*.860*	*.874*	*.919*	*.929*	*.979*
900	607.9	618.8	628.8	638.0	646.5	668.5	696.5	717.4	733.7	746.8	757.5	774.2	786.7	804.3	811.5	848.6
	.675	*.688*	*.699*	*.709*	*.718*	*.742*	*.774*	*.797*	*.815*	*.829*	*.842*	*.860*	*.874*	*.893*	*.930*	*.980*
1000	675.4	687.6	698.7	708.9	718.3	742.7	773.9	797.1	815.2	829.7	841.7	860.2	874.1	893.6	904.5	946.6
	.676	*.687*	*.698*	*.709*	*.719*	*.743*	*.774*	*.798*	*.815*	*.830*	*.841*	*.861*	*.874*	*.894*	*.931*	*.984*
1100	743.0	756.3	768.5	779.8	790.2	817.0	851.3	876.9	896.7	912.7	925.8	946.3	961.5	983.0	997.6	1045.
	.6754	*.6876*	*.6987*	*.7089*	*.7183*	*.7427*	*.7739*	*.7971*	*.8152*	*.8297*	*.8417*	*.8602*	*.8741*	*.8936*	*.9069*	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

k

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.0937															
3	.156	.321														
4	.220	.472	.656													
5	.275	.627	.888	1.07												
6	.330	.784	1.13	1.37	1.54											
7	.385	.941	1.37	1.68	1.90	2.06										
8	.440	1.10	1.62	1.99	2.26	2.46	2.62									
9	.495	1.25	1.87	2.31	2.63	2.87	3.06	3.21								
10	.550	1.39	2.11	2.64	3.01	3.29	3.51	3.68	3.82							
11	.605	1.53	2.36	2.96	3.40	3.72	3.96	4.16	4.32	4.45						
12	.660	1.67	2.61	3.28	3.78	4.15	4.43	4.65	4.83	4.98	5.11					
13	.715	1.81	2.85	3.61	4.17	4.58	4.90	5.14	5.35	5.51	5.66	5.78				
14	.770	1.95	3.09	3.93	4.56	5.02	5.37	5.64	5.87	6.05	6.21	6.35	6.47			
15	.825	2.09	3.34	4.26	4.95	5.46	5.85	6.15	6.40	6.60	6.77	6.92	7.05	7.17		
16	.880	2.23	3.58	4.58	5.34	5.90	6.33	6.66	6.93	7.15	7.34	7.50	7.64	7.77	7.88	
17	.935	2.36	3.80	4.91	5.73	6.34	6.81	7.17	7.47	7.71	7.91	8.09	8.24	8.37	8.49	8.60
18	.991	2.50	4.03	5.23	6.12	6.78	7.29	7.69	8.01	8.27	8.49	8.68	8.84	8.98	9.11	9.23
19	1.05	2.64	4.25	5.55	6.51	7.23	7.78	8.21	8.55	8.83	9.07	9.27	9.44	9.60	9.74	9.86
20	1.10	2.78	4.47	5.87	6.90	7.67	8.26	8.73	9.10	9.40	9.65	9.87	10.1	10.2	10.4	10.5
21	1.16	2.92	4.70	6.19	7.28	8.12	8.75	9.25	9.65	9.97	10.2	10.5	10.7	10.8	11.0	11.1
22	1.21	3.06	4.92	6.51	7.67	8.56	9.24	9.77	10.2	10.5	10.8	11.1	11.3	11.5	11.6	11.8
23	1.27	3.20	5.15	6.83	8.06	9.00	9.73	10.3	10.8	11.1	11.4	11.7	11.9	12.1	12.3	12.4
24	1.32	3.34	5.37	7.14	8.45	9.45	10.2	10.8	11.3	11.7	12.0	12.3	12.5	12.7	12.9	13.1
25	1.38	3.48	5.59	7.46	8.83	9.89	10.7	11.4	11.9	12.3	12.6	12.9	13.2	13.4	13.6	13.7
26	1.43	3.62	5.82	7.76	9.22	10.3	11.2	11.9	12.4	12.9	13.2	13.5	13.8	14.0	14.2	14.4
27	1.49	3.76	6.04	8.06	9.60	10.8	11.7	12.4	13.0	13.4	13.8	14.1	14.4	14.7	14.9	15.1
28	1.54	3.89	6.26	8.36	9.99	11.2	12.2	12.9	13.5	14.0	14.4	14.8	15.1	15.3	15.5	15.7
29	1.60	4.03	6.49	8.65	10.4	11.7	12.7	13.5	14.1	14.6	15.0	15.4	15.7	16.0	16.2	16.4
30	1.65	4.17	6.71	8.95	10.8	12.1	13.2	14.0	14.7	15.2	15.6	16.0	16.3	16.6	16.8	17.1
31	1.71	4.31	6.94	9.25	11.1	12.5	13.6	14.5	15.2	15.8	16.2	16.6	17.0	17.3	17.5	17.7
32	1.76	4.45	7.16	9.55	11.5	13.0	14.1	15.0	15.8	16.4	16.9	17.3	17.6	17.9	18.2	18.4
33	1.82	4.59	7.38	9.85	11.9	13.4	14.6	15.6	16.3	17.0	17.5	17.9	18.3	18.6	18.8	19.1
34	1.87	4.73	7.61	10.1	12.3	13.9	15.1	16.1	16.9	17.5	18.1	18.5	18.9	19.2	19.5	19.8
35	1.93	4.87	7.83	10.4	12.7	14.3	15.6	16.6	17.5	18.1	18.7	19.1	19.5	19.9	20.2	20.4
36	1.98	5.01	8.05	10.7	13.0	14.7	16.1	17.2	18.0	18.7	19.3	19.8	20.2	20.5	20.8	21.1
37	2.04	5.15	8.28	11.0	13.4	15.2	16.6	17.7	18.6	19.3	19.9	20.4	20.8	21.2	21.5	21.8
38	2.09	5.29	8.50	11.3	13.8	15.6	17.1	18.2	19.1	19.9	20.5	21.0	21.5	21.9	22.2	22.5
39	2.15	5.42	8.73	11.6	14.1	16.0	17.5	18.7	19.7	20.5	21.1	21.7	22.1	22.5	22.9	23.2
40	2.20	5.56	8.95	11.9	14.5	16.5	18.0	19.3	20.3	21.1	21.8	22.3	22.8	23.2	23.5	23.9
41	2.26	5.70	9.17	12.2	14.8	16.9	18.5	19.8	20.8	21.7	22.4	22.9	23.4	23.9	24.2	24.5
42	2.31	5.84	9.40	12.5	15.2	17.3	19.0	20.3	21.4	22.3	23.0	23.6	24.1	24.5	24.9	25.2
43	2.37	5.98	9.62	12.8	15.6	17.8	19.5	20.9	22.0	22.9	23.6	24.2	24.7	25.2	25.6	25.9
44	2.42	6.12	9.84	13.1	15.9	18.2	20.0	21.4	22.5	23.4	24.2	24.9	25.4	25.9	26.3	26.6
45	2.48	6.26	10.1	13.4	16.3	18.6	20.4	21.9	23.1	24.0	24.8	25.5	26.0	26.5	26.9	27.3
46	2.53	6.40	10.3	13.7	16.6	19.1	20.9	22.4	23.6	24.6	25.4	26.1	26.7	27.2	27.6	28.0
47	2.59	6.54	10.5	14.0	17.0	19.5	21.4	22.9	24.2	25.2	26.1	26.8	27.4	27.9	28.3	28.7
48	2.64	6.68	10.7	14.3	17.4	19.9	21.9	23.5	24.8	25.8	26.7	27.4	28.0	28.5	29.0	29.4
49	2.70	6.82	11.0	14.6	17.7	20.4	22.4	24.0	25.3	26.4	27.3	28.0	28.7	29.2	29.7	30.1
50	2.75	6.95	11.2	14.9	18.1	20.8	22.8	24.5	25.9	27.0	27.9	28.7	29.3	29.9	30.4	30.8
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k \ N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
1																.0040
2																.0937
3																.321
4																.656
5																1.07
6																1.54
7																2.06
8																2.62
9																3.21
10																3.82
11																4.45
12																5.11
13																5.78
14																6.47
15																7.17
16																7.88
17																8.60
18	9.33															9.33
19	9.97	10.1														10.1
20	10.6	10.7	10.8													10.8
21	11.3	11.4	11.5	11.6												11.6
22	11.9	12.0	12.1	12.2	12.3											12.3
23	12.6	12.7	12.8	12.9	13.0											13.1
24	13.2	13.4	13.5	13.6	13.7											13.9
25	13.9	14.0	14.2	14.3	14.4	14.7										14.7
26	14.6	14.7	14.8	15.0	15.1	15.4										15.5
27	15.2	15.4	15.5	15.6	15.8	16.1										16.3
28	15.9	16.1	16.2	16.3	16.5	16.8										17.1
29	16.6	16.7	16.9	17.0	17.2	17.5										17.9
30	17.3	17.4	17.6	17.7	17.9	18.2	18.7									18.7
31	17.9	18.1	18.3	18.4	18.6	18.9	19.4									19.5
32	18.6	18.8	19.0	19.1	19.3	19.6	20.1									20.3
33	19.3	19.5	19.7	19.8	20.0	20.4	20.9									21.1
34	20.0	20.2	20.4	20.5	20.7	21.1	21.6									21.9
35	20.7	20.9	21.1	21.2	21.4	21.8	22.3	22.7								22.7
36	21.4	21.6	21.8	21.9	22.1	22.5	23.1	23.5								23.6
37	22.0	22.3	22.5	22.7	22.8	23.3	23.8	24.3								24.4
38	22.7	23.0	23.2	23.4	23.5	24.0	24.6	25.0								25.2
39	23.4	23.7	23.9	24.1	24.3	24.7	25.3	25.8								26.1
40	24.1	24.4	24.6	24.8	25.0	25.5	26.1	26.5	26.9							26.9
41	24.8	25.1	25.3	25.5	25.7	26.2	26.8	27.3	27.7							27.8
42	25.5	25.8	26.0	26.2	26.4	26.9	27.6	28.1	28.5							28.6
43	26.2	26.5	26.7	27.0	27.2	27.7	28.3	28.8	29.2							29.4
44	26.9	27.2	27.5	27.7	27.9	28.4	29.1	29.6	30.0							30.3
45	27.6	27.9	28.2	28.4	28.6	29.2	29.8	30.4	30.8	31.1						31.1
46	28.3	28.6	28.9	29.1	29.3	29.9	30.6	31.1	31.6	31.9						32.0
47	29.0	29.3	29.6	29.9	30.1	30.6	31.4	31.9	32.4	32.7						32.9
48	29.7	30.0	30.3	30.6	30.8	31.4	32.1	32.7	33.1	33.5						33.7
49	30.4	30.8	31.0	31.3	31.5	32.1	32.9	33.5	33.9	34.3						34.6
50	31.1	31.5	31.8	32.0	32.3	32.9	33.7	34.2	34.7	35.1	35.4					35.4
k \ N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	2.75	6.95	11.2	14.9	18.1	20.8	22.8	24.5	25.9	27.0	27.9	28.7	29.3	29.9	30.4	30.8
51	2.81	7.09	11.4	15.2	18.5	21.2	23.3	25.0	26.4	27.6	28.5	29.3	30.0	30.5	31.0	31.5
52	2.86	7.23	11.6	15.5	18.8	21.6	23.8	25.6	27.0	28.2	29.1	29.9	30.6	31.2	31.7	32.2
53	2.92	7.37	11.9	15.8	19.2	22.0	24.3	26.1	27.6	28.8	29.8	30.6	31.3	31.9	32.4	32.9
54	2.97	7.51	12.1	16.1	19.5	22.4	24.8	26.6	28.1	29.3	30.4	31.2	31.9	32.6	33.1	33.6
55	3.03	7.65	12.3	16.4	19.9	22.8	25.2	27.1	28.7	29.9	31.0	31.9	32.6	33.2	33.8	34.3
56	3.08	7.79	12.5	16.7	20.3	23.3	25.7	27.6	29.2	30.5	31.6	32.5	33.3	33.9	34.5	35.0
57	3.14	7.93	12.8	17.0	20.6	23.7	26.2	28.2	29.8	31.1	32.2	33.1	33.9	34.6	35.2	35.7
58	3.19	8.07	13.0	17.3	21.0	24.1	26.7	28.7	30.3	31.7	32.8	33.8	34.6	35.3	35.8	36.4
59	3.25	8.21	13.2	17.6	21.4	24.5	27.1	29.2	30.9	32.3	33.4	34.4	35.2	35.9	36.5	37.1
60	3.30	8.35	13.4	17.9	21.7	24.9	27.6	29.7	31.4	32.9	34.1	35.1	35.9	36.6	37.2	37.8
61	3.36	8.48	13.6	18.2	22.1	25.3	28.1	30.2	32.0	33.5	34.7	35.7	36.5	37.3	37.9	38.5
62	3.41	8.62	13.9	18.5	22.4	25.8	28.5	30.7	32.6	34.0	35.3	36.3	37.2	38.0	38.6	39.2
63	3.47	8.76	14.1	18.8	22.8	26.2	29.0	31.3	33.1	34.6	35.9	37.0	37.9	38.6	39.3	39.9
64	3.52	8.90	14.3	19.1	23.2	26.6	29.5	31.8	33.7	35.2	36.5	37.6	38.5	39.3	40.0	40.6
65	3.58	9.04	14.5	19.4	23.5	27.0	29.9	32.3	34.2	35.8	37.1	38.2	39.2	40.0	40.7	41.3
66	3.63	9.18	14.8	19.7	23.9	27.4	30.4	32.8	34.8	36.4	37.7	38.9	39.8	40.7	41.4	42.0
67	3.69	9.32	15.0	20.0	24.2	27.8	30.9	33.3	35.3	37.0	38.3	39.5	40.5	41.3	42.1	42.7
68	3.74	9.46	15.2	20.3	24.6	28.2	31.3	33.8	35.9	37.6	39.0	40.1	41.1	42.0	42.7	43.4
69	3.80	9.60	15.4	20.6	25.0	28.7	31.8	34.3	36.4	38.1	39.6	40.8	41.8	42.7	43.4	44.1
70	3.85	9.74	15.7	20.9	25.3	29.1	32.2	34.9	37.0	38.7	40.2	41.4	42.5	43.4	44.1	44.8
71	3.91	9.88	15.9	21.2	25.7	29.5	32.7	35.4	37.5	39.3	40.8	42.1	43.1	44.0	44.8	45.5
72	3.96	10.0	16.1	21.5	26.1	29.9	33.2	35.9	38.1	39.9	41.4	42.7	43.8	44.7	45.5	46.2
73	4.02	10.2	16.3	21.8	26.4	30.3	33.6	36.4	38.6	40.5	42.0	43.3	44.4	45.4	46.2	46.9
74	4.07	10.3	16.6	22.1	26.8	30.7	34.1	36.9	39.2	41.0	42.6	44.0	45.1	46.1	46.9	47.6
75	4.13	10.4	16.8	22.4	27.1	31.2	34.6	37.4	39.7	41.6	43.2	44.6	45.7	46.7	47.6	48.3
76	4.18	10.6	17.0	22.7	27.5	31.6	35.0	37.9	40.3	42.2	43.8	45.2	46.4	47.4	48.3	49.0
77	4.24	10.7	17.2	23.0	27.9	32.0	35.5	38.4	40.8	42.8	44.5	45.9	47.1	48.1	49.0	49.7
78	4.29	10.8	17.5	23.3	28.2	32.4	35.9	38.9	41.3	43.4	45.1	46.5	47.7	48.7	49.6	50.4
79	4.35	11.0	17.7	23.6	28.6	32.8	36.4	39.4	41.9	43.9	45.7	47.1	48.4	49.4	50.3	51.1
80	4.40	11.1	17.9	23.9	29.0	33.2	36.9	39.9	42.4	44.5	46.3	47.8	49.0	50.1	51.0	51.8
81	4.46	11.3	18.1	24.2	29.3	33.6	37.3	40.4	43.0	45.1	46.9	48.4	49.7	50.8	51.7	52.5
82	4.51	11.4	18.3	24.5	29.7	34.1	37.8	40.9	43.5	45.7	47.5	49.0	50.3	51.4	52.4	53.2
83	4.57	11.5	18.6	24.8	30.0	34.5	38.2	41.4	44.1	46.3	48.1	49.7	51.0	52.1	53.1	53.9
84	4.62	11.7	18.8	25.1	30.4	34.9	38.7	41.9	44.6	46.8	48.7	50.3	51.6	52.8	53.8	54.6
85	4.68	11.8	19.0	25.4	30.8	35.3	39.2	42.4	45.2	47.4	49.3	50.9	52.3	53.5	54.5	55.3
86	4.73	12.0	19.2	25.7	31.1	35.7	39.6	42.9	45.7	48.0	49.9	51.6	52.9	54.1	55.2	56.1
87	4.79	12.1	19.5	26.0	31.5	36.1	40.1	43.4	46.2	48.6	50.5	52.2	53.6	54.8	55.9	56.8
88	4.84	12.2	19.7	26.3	31.8	36.6	40.5	43.9	46.8	49.1	51.1	52.8	54.3	55.5	56.5	57.5
89	4.90	12.4	19.9	26.6	32.2	37.0	41.0	44.4	47.3	49.7	51.7	53.4	54.9	56.2	57.2	58.2
90	4.95	12.5	20.1	26.9	32.6	37.4	41.5	44.9	47.9	50.3	52.3	54.1	55.6	56.8	57.9	58.9
91	5.01	12.7	20.4	27.2	32.9	37.8	41.9	45.4	48.4	50.9	52.9	54.7	56.2	57.5	58.6	59.6
92	5.06	12.8	20.6	27.5	33.3	38.2	42.4	45.9	48.9	51.4	53.5	55.3	56.9	58.2	59.3	60.3
93	5.12	12.9	20.8	27.8	33.7	38.6	42.8	46.4	49.5	52.0	54.2	56.0	57.5	58.8	60.0	61.0
94	5.17	13.1	21.0	28.1	34.0	39.0	43.3	46.9	50.0	52.6	54.8	56.6	58.2	59.5	60.7	61.7
95	5.23	13.2	21.3	28.3	34.4	39.5	43.8	47.4	50.6	53.2	55.4	57.2	58.8	60.2	61.4	62.4
96	5.28	13.4	21.5	28.6	34.7	39.9	44.2	47.9	51.1	53.7	56.0	57.8	59.5	60.9	62.1	63.1
97	5.34	13.5	21.7	28.9	35.1	40.3	44.7	48.4	51.6	54.3	56.6	58.5	60.1	61.5	62.7	63.8
98	5.39	13.6	21.9	29.2	35.5	40.7	45.1	48.9	52.2	54.9	57.2	59.1	60.8	62.2	63.4	64.5
99	5.45	13.8	22.1	29.5	35.8	41.1	45.6	49.4	52.7	55.4	57.8	59.7	61.4	62.9	64.1	65.2
100	5.50	13.9	22.4	29.8	36.2	41.5	46.1	49.9	53.2	56.0	58.4	60.4	62.1	63.5	64.8	65.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																				k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110							
50	31.1	31.5	31.8	32.0	32.3	32.9	33.7	34.2	34.7	35.1	35.4										35.4	50
51	31.9	32.2	32.5	32.8	33.0	33.6	34.4	35.0	35.5	35.9	36.2										36.3	51
52	32.6	32.9	33.2	33.5	33.7	34.4	35.2	35.8	36.3	36.7	37.0										37.2	52
53	33.3	33.6	33.9	34.2	34.5	35.1	36.0	36.6	37.1	37.5	37.8										38.0	53
54	34.0	34.3	34.7	35.0	35.2	35.9	36.7	37.4	37.9	38.3	38.6										38.9	54
55	34.7	35.1	35.4	35.7	36.0	36.7	37.5	38.2	38.7	39.1	39.4										39.8	55
56	35.4	35.8	36.1	36.4	36.7	37.4	38.3	38.9	39.5	39.9	40.2										40.6	56
57	36.1	36.5	36.8	37.2	37.4	38.2	39.1	39.7	40.2	40.7	41.1										41.5	57
58	36.8	37.2	37.6	37.9	38.2	38.9	39.8	40.5	41.0	41.5	41.9										42.4	58
59	37.5	37.9	38.3	38.6	38.9	39.7	40.6	41.3	41.8	42.3	42.7										43.3	59
60	38.2	38.7	39.0	39.4	39.7	40.4	41.4	42.1	42.6	43.1	43.5	44.1									44.1	60
61	38.9	39.4	39.8	40.1	40.4	41.2	42.2	42.9	43.4	43.9	44.3	44.9									45.0	61
62	39.7	40.1	40.5	40.8	41.2	42.0	42.9	43.7	44.2	44.7	45.1	45.8									45.9	62
63	40.4	40.8	41.2	41.6	41.9	42.7	43.7	44.5	45.0	45.5	45.9	46.6									46.8	63
64	41.1	41.5	42.0	42.3	42.6	43.5	44.5	45.3	45.8	46.3	46.7	47.4									47.6	64
65	41.8	42.3	42.7	43.1	43.4	44.2	45.3	46.0	46.6	47.1	47.6	48.2									48.5	65
66	42.5	43.0	43.4	43.8	44.1	45.0	46.1	46.8	47.4	47.9	48.4	49.1									49.4	66
67	43.2	43.7	44.1	44.5	44.9	45.8	46.8	47.6	48.3	48.8	49.2	49.9									50.3	67
68	43.9	44.4	44.9	45.3	45.6	46.5	47.6	48.4	49.1	49.6	50.0	50.7									51.2	68
69	44.7	45.2	45.6	46.0	46.4	47.3	48.4	49.2	49.9	50.4	50.8	51.5									52.1	69
70	45.4	45.9	46.4	46.8	47.1	48.1	49.2	50.0	50.7	51.2	51.6	52.4	53.0								53.0	70
71	46.1	46.6	47.1	47.5	47.9	48.8	50.0	50.8	51.5	52.0	52.5	53.2	53.8								53.8	71
72	46.8	47.3	47.8	48.2	48.6	49.6	50.8	51.6	52.3	52.8	53.3	54.0	54.6								54.7	72
73	47.5	48.1	48.6	49.0	49.4	50.4	51.6	52.4	53.1	53.7	54.1	54.9	55.5								55.6	73
74	48.2	48.8	49.3	49.7	50.1	51.1	52.3	53.2	53.9	54.5	54.9	55.7	56.3								56.5	74
75	49.0	49.5	50.0	50.5	50.9	51.9	53.1	54.0	54.7	55.3	55.8	56.5	57.1								57.4	75
76	49.7	50.2	50.8	51.2	51.6	52.7	53.9	54.8	55.5	56.1	56.6	57.4	58.0								58.3	76
77	50.4	51.0	51.5	52.0	52.4	53.4	54.7	55.6	56.3	56.9	57.4	58.2	58.8								59.2	77
78	51.1	51.7	52.2	52.7	53.1	54.2	55.5	56.4	57.2	57.7	58.2	59.0	59.7								60.1	78
79	51.8	52.4	53.0	53.5	53.9	55.0	56.3	57.2	58.0	58.6	59.1	59.9	60.5								61.0	79
80	52.5	53.2	53.7	54.2	54.6	55.8	57.1	58.0	58.8	59.4	59.9	60.7	61.4								61.9	80
81	53.3	53.9	54.4	54.9	55.4	56.5	57.9	58.9	59.6	60.2	60.7	61.5	62.2								62.8	81
82	54.0	54.6	55.2	55.7	56.2	57.3	58.7	59.7	60.4	61.0	61.6	62.4	63.0								63.7	82
83	54.7	55.3	55.9	56.4	56.9	58.1	59.5	60.5	61.2	61.9	62.4	63.2	63.9								64.6	83
84	55.4	56.1	56.7	57.2	57.7	58.8	60.3	61.3	62.1	62.7	63.2	64.1	64.7								65.5	84
85	56.1	56.8	57.4	57.9	58.4	59.6	61.1	62.1	62.9	63.5	64.0	64.9	65.6								66.4	85
86	56.8	57.5	58.1	58.7	59.2	60.4	61.8	62.9	63.7	64.3	64.9	65.7	66.4								67.3	86
87	57.6	58.3	58.9	59.4	59.9	61.2	62.6	63.7	64.5	65.2	65.7	66.6	67.3								68.2	87
88	58.3	59.0	59.6	60.2	60.7	61.9	63.4	64.5	65.3	66.0	66.5	67.4	68.1								69.1	88
89	59.0	59.7	60.3	60.9	61.4	62.7	64.2	65.3	66.1	66.8	67.4	68.3	69.0								70.0	89
90	59.7	60.4	61.1	61.7	62.2	63.5	65.0	66.1	67.0	67.6	68.2	69.1	69.8	70.9							70.9	90
91	60.4	61.2	61.8	62.4	62.9	64.3	65.8	66.9	67.8	68.5	69.0	70.0	70.7	71.8							71.8	91
92	61.1	61.9	62.6	63.2	63.7	65.0	66.6	67.8	68.6	69.3	69.9	70.8	71.5	72.6							72.7	92
93	61.9	62.6	63.3	63.9	64.5	65.8	67.4	68.6	69.4	70.1	70.7	71.6	72.4	73.5							73.6	93
94	62.6	63.4	64.0	64.7	65.2	66.6	68.2	69.4	70.3	71.0	71.6	72.5	73.2	74.4							74.5	94
95	63.3	64.1	64.8	65.4	66.0	67.4	69.0	70.2	71.1	71.8	72.4	73.3	74.1	75.2							75.5	95
96	64.0	64.8	65.5	66.2	66.7	68.1	69.8	71.0	71.9	72.6	73.2	74.2	74.9	76.1							76.4	96
97	64.7	65.5	66.3	66.9	67.5	68.9	70.6	71.8	72.7	73.5	74.1	75.0	75.8	76.9							77.3	97
98	65.4	66.3	67.0	67.7	68.2	69.7	71.4	72.6	73.6	74.3	74.9	75.9	76.6	77.8							78.2	98
99	66.2	67.0	67.7	68.4	69.0	70.5	72.2	73.4	74.4	75.1	75.7	76.7	77.5	78.7							79.1	99
100	66.9	67.7	68.5	69.2	69.8	71.2	73.0	74.3	75.2	76.0	76.6	77.6	78.3	79.5							80.0	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110						k=N	N
	k																					

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	5.50	13.9	22.4	29.8	36.2	41.5	46.1	49.9	53.2	56.0	58.4	60.4	62.1	63.5	64.8	65.9
102	5.61	14.2	22.8	30.4	36.9	42.4	47.0	50.9	54.3	57.2	59.6	61.6	63.4	64.9	66.2	67.3
104	5.72	14.5	23.3	31.0	37.6	43.2	47.9	51.9	55.4	58.3	60.8	62.9	64.7	66.2	67.6	68.7
106	5.83	14.7	23.7	31.6	38.4	44.0	48.8	52.9	56.4	59.4	62.0	64.1	66.0	67.5	68.9	70.1
108	5.94	15.0	24.2	32.2	39.1	44.9	49.8	53.9	57.5	60.6	63.2	65.4	67.3	68.9	70.3	71.5
110	6.05	15.3	24.6	32.8	39.8	45.7	50.7	54.9	58.6	61.7	64.3	66.6	68.5	70.2	71.7	72.9
112	6.16	15.6	25.1	33.4	40.5	46.5	51.6	55.9	59.6	62.8	65.5	67.9	69.8	71.6	73.0	74.3
114	6.27	15.9	25.5	34.0	41.3	47.4	52.5	56.9	60.7	63.9	66.7	69.1	71.1	72.9	74.4	75.7
116	6.38	16.1	26.0	34.6	42.0	48.2	53.4	57.9	61.8	65.1	67.9	70.3	72.4	74.2	75.8	77.1
118	6.49	16.4	26.4	35.2	42.7	49.0	54.4	58.9	62.8	66.2	69.1	71.6	73.7	75.6	77.1	78.5
120	6.60	16.7	26.8	35.8	43.4	49.8	55.3	59.9	63.9	67.3	70.3	72.8	75.0	76.9	78.5	79.9
122	6.71	17.0	27.3	36.4	44.1	50.7	56.2	60.9	65.0	68.4	71.5	74.1	76.3	78.2	79.9	81.3
124	6.82	17.2	27.7	37.0	44.9	51.5	57.1	61.9	66.0	69.5	72.6	75.3	77.6	79.5	81.2	82.7
126	6.93	17.5	28.2	37.6	45.6	52.3	58.0	62.9	67.1	70.7	73.8	76.5	78.9	80.9	82.6	84.1
128	7.04	17.8	28.6	38.2	46.3	53.2	59.0	63.9	68.1	71.8	75.0	77.8	80.1	82.2	84.0	85.5
130	7.15	18.1	29.1	38.8	47.0	54.0	59.9	64.9	69.2	72.9	76.1	79.0	81.4	83.5	85.3	86.9
132	7.26	18.4	29.5	39.4	47.8	54.8	60.8	65.9	70.3	74.0	77.3	80.2	82.7	84.8	86.7	88.3
134	7.37	18.6	30.0	40.0	48.5	55.7	61.7	66.9	71.3	75.2	78.5	81.4	84.0	86.2	88.1	89.7
136	7.48	18.9	30.4	40.6	49.2	56.5	62.7	67.9	72.4	76.3	79.7	82.6	85.3	87.5	89.4	91.1
138	7.59	19.2	30.9	41.2	49.9	57.3	63.6	68.9	73.5	77.4	80.8	83.9	86.5	88.8	90.8	92.5
140	7.70	19.5	31.3	41.8	50.7	58.2	64.5	69.9	74.5	78.5	82.0	85.1	87.8	90.1	92.1	93.9
142	7.81	19.8	31.8	42.4	51.4	59.0	65.4	70.9	75.6	79.6	83.2	86.3	89.1	91.4	93.5	95.3
144	7.92	20.0	32.2	43.0	52.1	59.8	66.3	71.9	76.7	80.8	84.3	87.5	90.3	92.8	94.8	96.7
146	8.03	20.3	32.7	43.6	52.8	60.7	67.3	72.9	77.7	81.9	85.5	88.7	91.6	94.1	96.2	98.1
148	8.14	20.6	33.1	44.2	53.6	61.5	68.2	73.9	78.8	83.0	86.7	89.9	92.8	95.4	97.6	99.5
150	8.25	20.9	33.6	44.8	54.3	62.3	69.1	74.9	79.9	84.1	87.9	91.2	94.1	96.7	98.9	100.8
152	8.36	21.1	34.0	45.4	55.0	63.1	70.0	75.9	80.9	85.2	89.0	92.4	95.3	98.0	100.3	102.2
154	8.47	21.4	34.5	46.0	55.7	64.0	70.9	76.9	82.0	86.4	90.2	93.6	96.6	99.3	101.6	103.6
156	8.58	21.7	34.9	46.6	56.5	64.8	71.9	77.9	83.1	87.5	91.4	94.8	97.8	100.6	103.0	105.0
158	8.69	22.0	35.3	47.1	57.2	65.6	72.8	78.9	84.1	88.6	92.5	96.0	99.1	101.9	104.3	106.4
160	8.80	22.3	35.8	47.7	57.9	66.5	73.7	79.9	85.2	89.7	93.7	97.2	100.4	103.1	105.6	107.8
162	8.91	22.5	36.2	48.3	58.6	67.3	74.6	80.9	86.2	90.9	94.9	98.4	101.6	104.4	107.0	109.1
164	9.02	22.8	36.7	48.9	59.3	68.1	75.6	81.9	87.3	92.0	96.1	99.7	102.9	105.7	108.3	110.5
166	9.13	23.1	37.1	49.5	60.1	69.0	76.5	82.9	88.4	93.1	97.2	100.9	104.1	107.0	109.6	111.9
168	9.24	23.4	37.6	50.1	60.8	69.8	77.4	83.9	89.4	94.2	98.4	102.1	105.4	108.3	110.9	113.3
170	9.35	23.6	38.0	50.7	61.5	70.6	78.3	84.9	90.5	95.3	99.6	103.3	106.6	109.6	112.3	114.7
172	9.46	23.9	38.5	51.3	62.2	71.5	79.2	85.9	91.6	96.5	100.7	104.5	107.9	110.9	113.6	116.0
174	9.58	24.2	38.9	51.9	63.0	72.3	80.2	86.9	92.6	97.6	101.9	105.7	109.1	112.2	114.9	117.4
176	9.69	24.5	39.4	52.5	63.7	73.1	81.1	87.9	93.7	98.7	103.1	107.0	110.4	113.5	116.2	118.7
178	9.80	24.8	39.8	53.1	64.4	73.9	82.0	88.9	94.8	99.8	104.3	108.2	111.6	114.7	117.5	120.1
180	9.91	25.0	40.3	53.7	65.1	74.8	82.9	89.9	95.8	101.0	105.4	109.4	112.9	116.0	118.9	121.4
182	10.0	25.3	40.7	54.3	65.9	75.6	83.8	90.9	96.9	102.1	106.6	110.6	114.2	117.3	120.2	122.8
184	10.1	25.6	41.2	54.9	66.6	76.4	84.8	91.9	98.0	103.2	107.8	111.8	115.4	118.6	121.5	124.1
186	10.2	25.9	41.6	55.5	67.3	77.3	85.7	92.9	99.0	104.3	108.9	113.0	116.7	119.9	122.8	125.5
188	10.3	26.2	42.1	56.1	68.0	78.1	86.6	93.9	100.1	105.4	110.1	114.2	117.9	121.2	124.1	126.8
190	10.5	26.4	42.5	56.7	68.8	78.9	87.5	94.9	101.2	106.6	111.3	115.5	119.2	122.5	125.5	128.1
192	10.6	26.7	43.0	57.3	69.5	79.8	88.5	95.9	102.2	107.7	112.5	116.7	120.4	123.8	126.8	129.5
194	10.7	27.0	43.4	57.9	70.2	80.6	89.4	96.9	103.3	108.8	113.6	117.9	121.7	125.1	128.1	130.8
196	10.8	27.3	43.9	58.5	70.9	81.4	90.3	97.9	104.4	109.9	114.8	119.1	122.9	126.3	129.4	132.2
198	10.9	27.5	44.3	59.1	71.7	82.3	91.2	98.9	105.4	111.0	116.0	120.3	124.2	127.6	130.7	133.5
200	11.0	27.8	44.7	59.7	72.4	83.1	92.1	99.9	106.5	112.2	117.2	121.5	125.4	128.9	132.1	134.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
100	66.9	67.7	68.5	69.2	69.8	71.2	73.0	74.3	75.2	76.0	76.6	77.6	78.3	79.5		80.0
102	68.3	69.2	70.0	70.6	71.3	72.8	74.6	75.9	76.9	77.6	78.3	79.3	80.1	81.3		81.8
104	69.7	70.6	71.4	72.1	72.8	74.4	76.2	77.5	78.5	79.3	79.9	81.0	81.8	83.0		83.7
106	71.2	72.1	72.9	73.6	74.3	75.9	77.8	79.2	80.2	81.0	81.6	82.7	83.5	84.7		85.5
108	72.6	73.6	74.4	75.1	75.8	77.5	79.4	80.8	81.8	82.6	83.3	84.4	85.2	86.5		87.3
110	74.0	75.0	75.9	76.6	77.3	79.0	81.0	82.4	83.5	84.3	85.0	86.1	86.9	88.2	89.2	89.2
112	75.5	76.5	77.4	78.1	78.8	80.6	82.6	84.1	85.1	86.0	86.7	87.8	88.6	89.9	90.9	91.0
114	76.9	77.9	78.8	79.6	80.4	82.1	84.2	85.7	86.8	87.7	88.4	89.5	90.4	91.7	92.7	92.8
116	78.3	79.4	80.3	81.1	81.9	83.7	85.8	87.3	88.5	89.3	90.1	91.2	92.1	93.4	94.4	94.7
118	79.8	80.8	81.8	82.6	83.4	85.3	87.5	89.0	90.1	91.0	91.8	92.9	93.8	95.2	96.2	96.5
120	81.2	82.3	83.3	84.1	84.9	86.8	89.1	90.6	91.8	92.7	93.5	94.6	95.5	96.9	97.9	98.4
122	82.6	83.7	84.7	85.6	86.4	88.4	90.7	92.3	93.5	94.4	95.2	96.4	97.3	98.7	99.7	100.2
124	84.0	85.2	86.2	87.1	87.9	89.9	92.3	93.9	95.1	96.1	96.9	98.1	99.0	100.4	101.4	102.1
126	85.5	86.6	87.7	88.6	89.5	91.5	93.9	95.6	96.8	97.8	98.6	99.8	100.7	102.2	103.2	103.9
128	86.9	88.1	89.2	90.1	91.0	93.1	95.5	97.2	98.5	99.5	100.3	101.5	102.5	103.9	105.0	105.8
130	88.3	89.6	90.6	91.6	92.5	94.6	97.1	98.9	100.1	101.1	102.0	103.2	104.2	105.7	106.7	107.6
132	89.7	91.0	92.1	93.1	94.0	96.2	98.7	100.5	101.8	102.8	103.7	104.9	105.9	107.4	108.5	109.5
134	91.2	92.5	93.6	94.6	95.5	97.8	100.4	102.2	103.5	104.5	105.4	106.7	107.7	109.2	110.3	111.3
136	92.6	93.9	95.1	96.1	97.0	99.3	102.0	103.8	105.2	106.2	107.1	108.4	109.4	110.9	112.0	113.2
138	94.0	95.4	96.5	97.6	98.6	100.9	103.6	105.5	106.8	107.9	108.8	110.1	111.2	112.7	113.8	115.0
140	95.4	96.8	98.0	99.1	100.1	102.4	105.2	107.1	108.5	109.6	110.5	111.8	112.9	114.4	115.6	116.9
142	96.9	98.3	99.5	100.6	101.6	104.0	106.8	108.8	110.2	111.3	112.2	113.6	114.6	116.2	117.4	118.7
144	98.3	99.7	101.0	102.1	103.1	105.6	108.4	110.4	111.9	113.0	113.9	115.3	116.4	118.0	119.1	120.6
146	99.7	101.2	102.4	103.6	104.6	107.1	110.1	112.1	113.5	114.7	115.6	117.0	118.1	119.7	120.9	122.5
148	101.1	102.6	103.9	105.1	106.1	108.7	111.7	113.7	115.2	116.4	117.3	118.8	119.9	121.5	122.7	124.3
150	102.5	104.0	105.4	106.6	107.6	110.3	113.3	115.4	116.9	118.1	119.0	120.5	121.6	123.2	124.4	126.2
152	104.0	105.5	106.9	108.1	109.2	111.8	114.9	117.0	118.6	119.8	120.7	122.2	123.4	125.0	126.2	128.1
154	105.4	106.9	108.3	109.6	110.7	113.4	116.5	118.7	120.3	121.5	122.5	124.0	125.1	126.8	128.0	129.9
156	106.8	108.4	109.8	111.1	112.2	114.9	118.2	120.3	121.9	123.2	124.2	125.7	126.9	128.5	129.8	131.8
158	108.2	109.8	111.3	112.5	113.7	116.5	119.8	122.0	123.6	124.9	125.9	127.4	128.6	130.3	131.6	133.7
160	109.6	111.3	112.7	114.0	115.2	118.1	121.4	123.7	125.3	126.6	127.6	129.2	130.4	132.1	133.3	135.6
162	111.0	112.7	114.2	115.5	116.7	119.6	123.0	125.3	127.0	128.3	129.3	130.9	132.1	133.9	135.1	137.4
164	112.4	114.2	115.7	117.0	118.2	121.2	124.6	127.0	128.7	130.0	131.0	132.7	133.9	135.6	136.9	139.3
166	113.9	115.6	117.1	118.5	119.7	122.8	126.3	128.6	130.4	131.7	132.8	134.4	135.6	137.4	138.7	141.2
168	115.3	117.0	118.6	120.0	121.3	124.3	127.9	130.3	132.1	133.4	134.5	136.1	137.4	139.2	140.5	143.1
170	116.7	118.5	120.1	121.5	122.8	125.9	129.5	132.0	133.7	135.1	136.2	137.9	139.1	141.0	142.3	144.9
172	118.1	119.9	121.5	123.0	124.3	127.4	131.1	133.6	135.4	136.8	137.9	139.6	140.9	142.7	144.1	146.8
174	119.5	121.3	123.0	124.5	125.8	129.0	132.7	135.3	137.1	138.5	139.6	141.4	142.6	144.5	145.8	148.7
176	120.9	122.8	124.5	125.9	127.3	130.6	134.4	136.9	138.8	140.2	141.4	143.1	144.4	146.3	147.6	150.6
178	122.3	124.2	125.9	127.4	128.8	132.1	136.0	138.6	140.5	141.9	143.1	144.9	146.2	148.1	149.4	152.4
180	123.7	125.7	127.4	128.9	130.3	133.7	137.6	140.3	142.2	143.6	144.8	146.6	147.9	149.8	151.2	154.3
182	125.1	127.1	128.8	130.4	131.8	135.2	139.2	141.9	143.9	145.4	146.5	148.3	149.7	151.6	153.0	156.2
184	126.5	128.5	130.3	131.9	133.3	136.8	140.9	143.6	145.6	147.1	148.3	150.1	151.4	153.4	154.8	158.1
186	127.8	130.0	131.8	133.4	134.8	138.4	142.5	145.2	147.3	148.8	150.0	151.8	153.2	155.2	156.6	160.0
188	129.2	131.4	133.2	134.9	136.3	139.9	144.1	146.9	148.9	150.5	151.7	153.6	155.0	157.0	158.4	161.9
190	130.6	132.8	134.7	136.3	137.8	141.5	145.7	148.6	150.6	152.2	153.5	155.3	156.7	158.7	160.2	163.8
192	132.0	134.2	136.1	137.8	139.3	143.0	147.3	150.2	152.3	153.9	155.2	157.1	158.5	160.5	162.0	165.6
194	133.3	135.6	137.6	139.3	140.8	144.6	149.0	151.9	154.0	155.6	156.9	158.8	160.3	162.3	163.8	167.5
196	134.7	137.0	139.0	140.8	142.3	146.2	150.6	153.6	155.7	157.3	158.6	160.6	162.0	164.1	165.6	169.4
198	136.1	138.4	140.5	142.3	143.8	147.7	152.2	155.2	157.4	159.1	160.4	162.3	163.8	165.9	167.4	171.3
200	137.5	139.8	142.0	143.7	145.3	149.3	153.8	156.9	159.1	160.8	162.1	164.1	165.6	167.7	169.2	173.2
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	11.0	27.8	44.7	59.7	72.4	83.1	92.1	99.9	106.5	112.2	117.2	121.5	125.4	128.9	132.1	134.9
202	11.1	28.1	45.2	60.3	73.1	83.9	93.1	100.9	107.5	113.3	118.3	122.8	126.7	130.2	133.4	136.2
204	11.2	28.4	45.6	60.9	73.8	84.7	94.0	101.9	108.6	114.4	119.5	124.0	128.0	131.5	134.7	137.6
206	11.3	28.7	46.1	61.5	74.5	85.6	94.9	102.9	109.7	115.5	120.7	125.2	129.2	132.8	136.0	138.9
208	11.4	28.9	46.5	62.1	75.3	86.4	95.8	103.9	110.7	116.7	121.8	126.4	130.5	134.1	137.3	140.3
210	11.6	29.2	47.0	62.7	76.0	87.2	96.7	104.8	111.8	117.8	123.0	127.6	131.7	135.4	138.7	141.6
212	11.7	29.5	47.4	63.3	76.7	88.1	97.7	105.8	112.9	118.9	124.2	128.8	133.0	136.7	140.0	143.0
214	11.8	29.8	47.9	63.9	77.4	88.9	98.6	106.8	113.9	120.0	125.4	130.0	134.2	138.0	141.3	144.3
216	11.9	30.0	48.3	64.5	78.2	89.7	99.5	107.8	115.0	121.1	126.5	131.3	135.5	139.2	142.6	145.7
218	12.0	30.3	48.8	65.1	78.9	90.6	100.4	108.8	116.1	122.3	127.7	132.5	136.7	140.5	143.9	147.0
220	12.1	30.6	49.2	65.6	79.6	91.4	101.4	109.8	117.1	123.4	128.9	133.7	138.0	141.8	145.3	148.4
222	12.2	30.9	49.7	66.2	80.3	92.2	102.3	110.8	118.2	124.5	130.0	134.9	139.2	143.1	146.6	149.7
224	12.3	31.2	50.1	66.8	81.1	93.1	103.2	111.8	119.3	125.6	131.2	136.1	140.5	144.4	147.9	151.1
226	12.4	31.4	50.6	67.4	81.8	93.9	104.1	112.8	120.3	126.8	132.4	137.3	141.7	145.7	149.2	152.4
228	12.5	31.7	51.0	68.0	82.5	94.7	105.0	113.8	121.4	127.9	133.6	138.6	143.0	147.0	150.5	153.8
230	12.7	32.0	51.5	68.6	83.2	95.5	106.0	114.8	122.5	129.0	134.7	139.8	144.3	148.3	151.9	155.1
232	12.8	32.3	51.9	69.2	84.0	96.4	106.9	115.8	123.5	130.1	135.9	141.0	145.5	149.6	153.2	156.5
234	12.9	32.5	52.4	69.8	84.7	97.2	107.8	116.8	124.6	131.2	137.1	142.2	146.8	150.8	154.5	157.8
236	13.0	32.8	52.8	70.4	85.4	98.0	108.7	117.8	125.6	132.4	138.2	143.4	148.0	152.1	155.8	159.2
238	13.1	33.1	53.2	71.0	86.1	98.9	109.6	118.8	126.7	133.5	139.4	144.6	149.3	153.4	157.2	160.5
240	13.2	33.4	53.7	71.6	86.9	99.7	110.6	119.8	127.8	134.6	140.6	145.8	150.5	154.7	158.5	161.9
242	13.3	33.7	54.1	72.2	87.6	100.5	111.5	120.8	128.8	135.7	141.8	147.1	151.8	156.0	159.8	163.2
244	13.4	33.9	54.6	72.8	88.3	101.4	112.4	121.8	129.9	136.8	142.9	148.3	153.0	157.3	161.1	164.6
246	13.5	34.2	55.0	73.4	89.0	102.2	113.3	122.8	131.0	138.0	144.1	149.5	154.3	158.6	162.4	165.9
248	13.6	34.5	55.5	74.0	89.7	103.0	114.3	123.8	132.0	139.1	145.3	150.7	155.5	159.9	163.8	167.3
250	13.8	34.8	55.9	74.6	90.5	103.9	115.2	124.8	133.1	140.2	146.4	151.9	156.8	161.2	165.1	168.6
	.054	.138	.224	.298	.362	.414	.460	.500	.532	.562	.586	.608	.628	.644	.660	.674
300	16.5	41.7	67.1	89.5	108.6	124.6	138.2	149.8	159.7	168.3	175.7	182.3	188.2	193.4	198.1	202.3
	.056	.140	.224	.298	.362	.416	.460	.498	.532	.560	.586	.608	.626	.644	.660	.676
350	19.3	48.7	78.3	104.4	126.7	145.4	161.2	174.7	186.3	196.3	205.0	212.7	219.5	225.6	231.1	236.1
	.054	.138	.224	.300	.362	.416	.462	.500	.534	.560	.586	.608	.628	.646	.660	.674
400	22.0	55.6	89.5	119.4	144.8	166.2	184.3	199.7	213.0	224.3	234.3	243.1	250.9	257.9	264.1	269.8
	.056	.140	.224	.298	.360	.414	.460	.500	.532	.562	.586	.608	.626	.644	.660	.674
450	24.8	62.6	100.7	134.3	162.8	186.9	207.3	224.7	239.6	252.4	263.6	273.5	282.2	290.1	297.1	303.5
	.054	.138	.224	.298	.362	.416	.462	.498	.532	.560	.586	.608	.628	.644	.662	.674
500	27.5	69.5	111.9	149.2	180.9	207.7	230.4	249.6	266.2	280.4	292.9	303.9	313.6	322.3	330.2	337.2
	.055	.140	.223	.298	.362	.415	.460	.500	.532	.561	.586	.607	.627	.645	.660	.675
600	33.0	83.5	134.2	179.0	217.1	249.2	276.4	299.6	319.4	336.5	351.5	364.6	376.3	386.8	396.2	404.7
	.055	.139	.224	.299	.362	.416	.461	.499	.533	.561	.585	.608	.627	.644	.660	.674
700	38.5	97.4	156.6	208.9	253.3	290.8	322.5	349.5	372.7	392.6	410.0	425.4	439.0	451.2	462.2	472.1
	.055	.139	.224	.298	.362	.415	.461	.499	.532	.561	.586	.608	.628	.645	.660	.675
800	44.0	111.3	179.0	238.7	289.5	332.3	368.6	399.4	425.9	448.7	468.6	486.2	501.8	515.7	528.2	539.6
	.055	.139	.224	.299	.362	.416	.460	.500	.533	.561	.586	.607	.627	.645	.661	.674
900	49.5	125.2	201.4	268.6	325.7	373.9	414.6	449.4	479.2	504.8	527.2	546.9	564.5	580.2	594.3	607.0
	.055	.139	.223	.298	.362	.415	.461	.499	.532	.561	.586	.608	.627	.644	.660	.675
1000	55.0	139.1	223.7	298.4	361.9	415.4	460.7	499.3	532.4	560.9	585.8	607.7	627.2	644.6	660.3	674.5
	.055	.139	.224	.298	.362	.416	.461	.499	.532	.560	.585	.608	.627	.645	.660	.674
1100	60.5	153.0	246.1	328.2	398.1	457.0	506.8	549.2	585.6	616.9	644.3	668.5	689.9	709.1	726.3	741.9
	.0550	.1391	.2237	.2984	.3619	.4154	.4607	.4993	.5324	.5609	.5858	.6077	.6272	.6446	.6603	.6745
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110			
200	137.5	139.8	142.0	143.7	145.3	149.3	153.8	156.9	159.1	160.8	162.1	164.1	165.6	167.7	169.2	173.2		200
202	138.8	141.2	143.4	145.2	146.8	150.8	155.5	158.6	160.8	162.5	163.8	165.9	167.3	169.5	171.0	175.1		202
204	140.2	142.6	144.8	146.7	148.3	152.4	157.1	160.2	162.5	164.2	165.6	167.6	169.1	171.2	172.8	177.0		204
206	141.6	144.0	146.2	148.2	149.8	153.9	158.7	161.9	164.2	165.9	167.3	169.4	170.9	173.0	174.6	178.9		206
208	143.0	145.4	147.6	149.7	151.3	155.5	160.3	163.6	165.9	167.6	169.0	171.1	172.6	174.8	176.4	180.8		208
210	144.3	146.8	149.1	151.1	152.8	157.1	161.9	165.2	167.6	169.4	170.8	172.9	174.4	176.6	178.2	182.7		210
212	145.7	148.2	150.5	152.6	154.3	158.6	163.6	166.9	169.3	171.1	172.5	174.6	176.2	178.4	180.0	184.6		212
214	147.1	149.6	151.9	154.0	155.8	160.2	165.2	168.5	171.0	172.8	174.2	176.4	178.0	180.2	181.8	186.5		214
216	148.5	151.0	153.3	155.5	157.3	161.7	166.8	170.2	172.7	174.5	176.0	178.1	179.7	182.0	183.6	188.4		216
218	149.8	152.4	154.7	156.9	158.8	163.3	168.4	171.9	174.4	176.2	177.7	179.9	181.5	183.8	185.4	190.2		218
220	151.2	153.8	156.2	158.3	160.3	164.8	170.0	173.5	176.0	177.9	179.4	181.7	183.3	185.6	187.2	192.1		220
222	152.6	155.2	157.6	159.8	161.8	166.4	171.7	175.2	177.7	179.7	181.2	183.4	185.1	187.4	189.0	194.0		222
224	154.0	156.6	159.0	161.2	163.2	167.9	173.3	176.9	179.4	181.4	182.9	185.2	186.8	189.2	190.8	195.9		224
226	155.3	158.0	160.4	162.6	164.7	169.5	174.9	178.5	181.1	183.1	184.6	186.9	188.6	191.0	192.6	197.8		226
228	156.7	159.4	161.8	164.1	166.2	171.0	176.5	180.2	182.8	184.8	186.4	188.7	190.4	192.8	194.4	199.7		228
230	158.1	160.8	163.3	165.5	167.6	172.6	178.2	181.9	184.5	186.5	188.1	190.5	192.2	194.5	196.2	201.6		230
232	159.5	162.2	164.7	167.0	169.1	174.1	179.8	183.5	186.2	188.3	189.8	192.2	193.9	196.3	198.0	203.5		232
234	160.8	163.6	166.1	168.4	170.5	175.7	181.4	185.2	187.9	190.0	191.6	194.0	195.7	198.1	199.9	205.4		234
236	162.2	165.0	167.5	169.8	172.0	177.2	183.0	186.9	189.6	191.7	193.3	195.7	197.5	199.9	201.7	207.4		236
238	163.6	166.4	168.9	171.3	173.5	178.8	184.6	188.5	191.3	193.4	195.1	197.5	199.3	201.7	203.5	209.3		238
240	165.0	167.8	170.4	172.7	174.9	180.3	186.3	190.2	193.0	195.1	196.8	199.3	201.0	203.5	205.3	211.2		240
242	166.3	169.2	171.8	174.2	176.4	181.9	187.9	191.9	194.7	196.9	198.5	201.0	202.8	205.3	207.1	213.1		242
244	167.7	170.6	173.2	175.6	177.8	183.4	189.5	193.5	196.4	198.6	200.3	202.8	204.6	207.1	208.9	215.0		244
246	169.1	172.0	174.6	177.0	179.3	185.0	191.1	195.2	198.1	200.3	202.0	204.6	206.4	208.9	210.7	216.9		246
248	170.5	173.4	176.0	178.5	180.7	186.5	192.7	196.9	199.8	202.0	203.8	206.3	208.2	210.7	212.5	218.8		248
250	171.8	174.8	177.4	179.9	182.2	188.1	194.3	198.5	201.5	203.8	205.5	208.1	209.9	212.5	214.4	220.7		250
	.688	.698	.710	.720	.728	.752	.808	.834	.850	.862	.872	.884	.894	.904	.910	.956		
300	206.2	209.7	212.9	215.9	218.6	225.7	234.7	240.2	244.0	246.9	249.1	252.3	254.6	257.7	259.9	268.5		300
	.688	.700	.710	.720	.730	.752	.782	.830	.850	.862	.874	.888	.896	.908	.914	.962		
350	240.6	244.7	248.4	251.9	255.1	263.3	273.8	281.7	286.5	290.0	292.8	296.7	299.4	303.1	305.6	316.6		350
	.686	.698	.710	.720	.728	.752	.784	.804	.848	.864	.874	.890	.900	.912	.918	.966		
400	274.9	279.6	283.9	287.9	291.5	300.9	313.0	321.9	328.9	333.2	336.5	341.2	344.4	348.7	351.5	364.9		400
	.688	.700	.710	.720	.730	.754	.782	.806	.824	.864	.874	.892	.902	.914	.922	.968		
450	309.3	314.6	319.4	323.9	328.0	338.6	352.1	362.2	370.1	376.4	380.2	385.8	389.5	394.4	397.6	413.3		450
	.688	.698	.710	.718	.728	.752	.782	.804	.822	.836	.876	.890	.904	.916	.924	.972		
500	343.7	349.5	354.9	359.8	364.4	376.2	391.2	402.4	411.2	418.2	424.0	430.3	434.7	440.2	443.8	461.9		500
	.687	.699	.710	.720	.729	.752	.783	.805	.822	.836	.848	.892	.904	.919	.926	.974		
600	412.4	419.4	425.9	431.8	437.3	451.4	469.5	482.9	493.4	501.8	508.8	519.5	525.1	532.1	536.4	559.3		600
	.687	.699	.710	.720	.729	.753	.782	.805	.822	.837	.847	.866	.904	.920	.929	.978		
700	481.1	489.3	496.9	503.8	510.2	526.7	547.7	563.4	575.6	585.5	593.5	606.1	615.5	624.1	629.3	657.1		700
	.688	.699	.709	.719	.728	.752	.782	.805	.823	.836	.848	.866	.880	.921	.931	.980		
800	549.9	559.2	567.8	575.7	583.0	601.9	625.9	643.9	657.9	669.1	678.3	692.7	703.5	716.2	722.4	755.1		800
	.687	.699	.710	.720	.729	.752	.783	.805	.822	.836	.848	.866	.879	.923	.932	.982		
900	618.6	629.1	638.8	647.7	655.9	677.1	704.2	724.4	740.1	752.7	763.1	779.3	791.4	808.5	815.6	853.3		900
	.687	.700	.710	.720	.729	.753	.782	.805	.822	.837	.848	.866	.879	.898	.933	.984		
1000	687.3	699.1	709.8	719.7	728.8	752.4	782.4	804.9	822.3	836.4	847.9	865.9	879.3	898.3	908.9	951.7		1000
	.688	.699	.710	.719	.729	.752	.783	.805	.823	.836	.848	.866	.880	.898	.931	.983		
1100	756.1	769.0	780.8	791.6	801.7	827.6	860.7	885.4	904.6	920.0	932.7	952.5	967.3	988.1	1002.	1050.		1100
	.6873	.6991	.7098	.7197	.7288	.7524	.7824	.8049	.8223	.8364	.8479	.8659	.8793	.8983	.9112			
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N		N
	k																	

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.105															
3	.175	.349														
4	.246	.511	.701													
5	.308	.678	.946	1.13												
6	.370	.846	1.20	1.44	1.62											
7	.431	1.02	1.46	1.77	1.99	2.16										
8	.493	1.18	1.72	2.10	2.37	2.57	2.73									
9	.554	1.35	1.98	2.43	2.75	2.99	3.18	3.33								
10	.616	1.50	2.24	2.76	3.14	3.43	3.64	3.82	3.96							
11	.678	1.65	2.50	3.10	3.54	3.86	4.11	4.31	4.47	4.61						
12	.739	1.80	2.76	3.44	3.94	4.31	4.59	4.81	4.99	5.15	5.28					
13	.801	1.95	3.02	3.78	4.34	4.75	5.07	5.32	5.52	5.69	5.84	5.96				
14	.862	2.10	3.28	4.12	4.74	5.20	5.55	5.83	6.05	6.24	6.40	6.54	6.66			
15	.924	2.25	3.54	4.46	5.15	5.65	6.04	6.35	6.59	6.80	6.97	7.12	7.26	7.38		
16	.986	2.40	3.79	4.80	5.55	6.11	6.53	6.87	7.14	7.36	7.55	7.71	7.86	7.99	8.10	
17	1.05	2.55	4.03	5.14	5.96	6.56	7.03	7.39	7.69	7.93	8.13	8.31	8.46	8.60	8.72	8.83
18	1.11	2.70	4.27	5.48	6.36	7.02	7.53	7.92	8.24	8.50	8.72	8.91	9.08	9.22	9.35	9.47
19	1.17	2.85	4.50	5.81	6.76	7.48	8.02	8.45	8.79	9.08	9.31	9.51	9.69	9.85	9.99	10.1
20	1.23	3.00	4.74	6.15	7.17	7.94	8.52	8.98	9.35	9.65	9.91	10.1	10.3	10.5	10.6	10.8
21	1.29	3.15	4.98	6.49	7.57	8.40	9.03	9.52	9.91	10.2	10.5	10.7	10.9	11.1	11.3	11.4
22	1.36	3.30	5.22	6.82	7.98	8.85	9.53	10.1	10.5	10.8	11.1	11.4	11.6	11.7	11.9	12.1
23	1.42	3.45	5.45	7.15	8.38	9.31	10.0	10.6	11.0	11.4	11.7	12.0	12.2	12.4	12.6	12.7
24	1.48	3.60	5.69	7.49	8.78	9.77	10.5	11.1	11.6	12.0	12.3	12.6	12.8	13.0	13.2	13.4
25	1.54	3.75	5.93	7.82	9.18	10.2	11.0	11.7	12.2	12.6	12.9	13.2	13.5	13.7	13.9	14.0
26	1.60	3.90	6.16	8.13	9.58	10.7	11.5	12.2	12.7	13.2	13.5	13.8	14.1	14.3	14.5	14.7
27	1.66	4.05	6.40	8.44	9.98	11.1	12.0	12.7	13.3	13.8	14.1	14.5	14.7	15.0	15.2	15.4
28	1.72	4.20	6.64	8.76	10.4	11.6	12.5	13.3	13.9	14.4	14.8	15.1	15.4	15.6	15.9	16.1
29	1.79	4.35	6.87	9.07	10.8	12.1	13.1	13.8	14.5	15.0	15.4	15.7	16.0	16.3	16.5	16.7
30	1.85	4.50	7.11	9.38	11.2	12.5	13.6	14.4	15.0	15.6	16.0	16.4	16.7	17.0	17.2	17.4
31	1.91	4.65	7.35	9.69	11.6	13.0	14.1	14.9	15.6	16.2	16.6	17.0	17.3	17.6	17.9	18.1
32	1.97	4.80	7.59	10.0	12.0	13.4	14.6	15.5	16.2	16.8	17.2	17.6	18.0	18.3	18.5	18.8
33	2.03	4.95	7.82	10.3	12.4	13.9	15.1	16.0	16.7	17.4	17.9	18.3	18.6	18.9	19.2	19.5
34	2.09	5.10	8.06	10.6	12.8	14.3	15.6	16.5	17.3	18.0	18.5	18.9	19.3	19.6	19.9	20.1
35	2.16	5.26	8.30	10.9	13.2	14.8	16.1	17.1	17.9	18.6	19.1	19.6	19.9	20.3	20.6	20.8
36	2.22	5.41	8.53	11.3	13.5	15.2	16.6	17.6	18.5	19.2	19.7	20.2	20.6	20.9	21.3	21.5
37	2.28	5.56	8.77	11.6	13.9	15.7	17.1	18.2	19.0	19.8	20.3	20.8	21.3	21.6	21.9	22.2
38	2.34	5.71	9.01	11.9	14.3	16.1	17.6	18.7	19.6	20.4	21.0	21.5	21.9	22.3	22.6	22.9
39	2.40	5.86	9.25	12.2	14.7	16.6	18.1	19.2	20.2	21.0	21.6	22.1	22.6	23.0	23.3	23.6
40	2.46	6.01	9.48	12.5	15.1	17.0	18.6	19.8	20.8	21.6	22.2	22.8	23.2	23.6	24.0	24.3
41	2.53	6.16	9.72	12.8	15.4	17.5	19.1	20.3	21.3	22.2	22.8	23.4	23.9	24.3	24.7	25.0
42	2.59	6.31	9.96	13.1	15.8	17.9	19.6	20.9	21.9	22.8	23.5	24.1	24.6	25.0	25.4	25.7
43	2.65	6.46	10.2	13.4	16.2	18.4	20.1	21.4	22.5	23.4	24.1	24.7	25.2	25.7	26.0	26.4
44	2.71	6.61	10.4	13.8	16.6	18.8	20.6	21.9	23.1	24.0	24.7	25.3	25.9	26.3	26.7	27.1
45	2.77	6.76	10.7	14.1	16.9	19.3	21.1	22.5	23.6	24.6	25.3	26.0	26.5	27.0	27.4	27.8
46	2.83	6.91	10.9	14.4	17.3	19.7	21.6	23.0	24.2	25.2	26.0	26.6	27.2	27.7	28.1	28.5
47	2.90	7.06	11.1	14.7	17.7	20.2	22.1	23.6	24.8	25.8	26.6	27.3	27.9	28.4	28.8	29.2
48	2.96	7.21	11.4	15.0	18.1	20.6	22.5	24.1	25.4	26.4	27.2	27.9	28.5	29.1	29.5	29.9
49	3.02	7.36	11.6	15.3	18.4	21.1	23.0	24.6	25.9	27.0	27.9	28.6	29.2	29.7	30.2	30.6
50	3.08	7.51	11.9	15.6	18.8	21.5	23.5	25.2	26.5	27.6	28.5	29.2	29.9	30.4	30.9	31.3
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
															.0050	1
															.105	2
															.349	3
															.701	4
															1.13	5
															1.62	6
															2.16	7
															2.73	8
															3.33	9
															3.96	10
															4.61	11
															5.28	12
															5.96	13
															6.66	14
															7.38	15
															8.10	16
															8.83	17
9.58															9.58	18
10.2	10.3														10.3	19
10.9	11.0	11.1													11.1	20
11.5	11.7	11.8	11.9												11.9	21
12.2	12.3	12.4	12.5	12.6											12.6	22
12.9	13.0	13.1	13.2	13.3											13.4	23
13.5	13.7	13.8	13.9	14.0											14.2	24
14.2	14.3	14.5	14.6	14.7	15.0										15.0	25
14.9	15.0	15.2	15.3	15.4	15.7										15.8	26
15.6	15.7	15.9	16.0	16.1	16.4										16.6	27
16.2	16.4	16.5	16.7	16.8	17.1										17.4	28
16.9	17.1	17.2	17.4	17.5	17.9										18.2	29
17.6	17.8	17.9	18.1	18.2	18.6	19.0									19.0	30
18.3	18.5	18.6	18.8	18.9	19.3	19.8									19.9	31
19.0	19.2	19.3	19.5	19.6	20.0	20.5									20.7	32
19.7	19.9	20.0	20.2	20.4	20.7	21.3									21.5	33
20.4	20.6	20.8	20.9	21.1	21.5	22.0									22.3	34
21.1	21.3	21.5	21.6	21.8	22.2	22.7	23.2								23.2	35
21.8	22.0	22.2	22.4	22.5	22.9	23.5	23.9								24.0	36
22.5	22.7	22.9	23.1	23.2	23.7	24.3	24.7								24.8	37
23.2	23.4	23.6	23.8	24.0	24.4	25.0	25.5								25.7	38
23.9	24.1	24.3	24.5	24.7	25.2	25.8	26.2								26.5	39
24.6	24.8	25.0	25.2	25.4	25.9	26.5	27.0	27.4							27.4	40
25.3	25.5	25.8	26.0	26.2	26.6	27.3	27.8	28.2							28.2	41
26.0	26.2	26.5	26.7	26.9	27.4	28.0	28.5	28.9							29.1	42
26.7	27.0	27.2	27.4	27.6	28.1	28.8	29.3	29.7							29.9	43
27.4	27.7	27.9	28.1	28.4	28.9	29.6	30.1	30.5							30.8	44
28.1	28.4	28.6	28.9	29.1	29.6	30.3	30.9	31.3	31.7						31.7	45
28.8	29.1	29.4	29.6	29.8	30.4	31.1	31.6	32.1	32.5						32.5	46
29.5	29.8	30.1	30.3	30.6	31.1	31.9	32.4	32.9	33.2						33.4	47
30.2	30.5	30.8	31.1	31.3	31.9	32.6	33.2	33.7	34.0						34.2	48
30.9	31.3	31.6	31.8	32.0	32.6	33.4	34.0	34.5	34.8						35.1	49
31.7	32.0	32.3	32.5	32.8	33.4	34.2	34.8	35.2	35.6	36.0					36.0	50
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

k

B = 0,5 %

A em Erl

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	3.08	7.51	11.9	15.6	18.8	21.5	23.5	25.2	26.5	27.6	28.5	29.2	29.9	30.4	30.9	31.3
51	3.14	7.66	12.1	15.9	19.2	21.9	24.0	25.7	27.1	28.2	29.1	29.9	30.5	31.1	31.6	32.0
52	3.20	7.81	12.3	16.3	19.6	22.3	24.5	26.2	27.6	28.8	29.7	30.5	31.2	31.8	32.3	32.7
53	3.26	7.96	12.6	16.6	19.9	22.8	25.0	26.8	28.2	29.4	30.4	31.2	31.9	32.5	33.0	33.4
54	3.33	8.11	12.8	16.9	20.3	23.2	25.5	27.3	28.8	30.0	31.0	31.8	32.5	33.1	33.7	34.1
55	3.39	8.26	13.0	17.2	20.7	23.6	26.0	27.8	29.4	30.6	31.6	32.5	33.2	33.8	34.4	34.8
56	3.45	8.41	13.3	17.5	21.1	24.1	26.5	28.4	29.9	31.2	32.2	33.1	33.9	34.5	35.1	35.5
57	3.51	8.56	13.5	17.8	21.5	24.5	27.0	28.9	30.5	31.8	32.9	33.8	34.5	35.2	35.8	36.2
58	3.57	8.71	13.7	18.1	21.8	24.9	27.5	29.4	31.1	32.4	33.5	34.4	35.2	35.9	36.5	37.0
59	3.63	8.86	14.0	18.4	22.2	25.4	27.9	30.0	31.6	33.0	34.1	35.1	35.9	36.6	37.1	37.7
60	3.70	9.01	14.2	18.8	22.6	25.8	28.4	30.5	32.2	33.6	34.8	35.7	36.5	37.2	37.8	38.4
61	3.76	9.16	14.5	19.1	23.0	26.2	28.9	31.0	32.8	34.2	35.4	36.4	37.2	37.9	38.5	39.1
62	3.82	9.31	14.7	19.4	23.3	26.6	29.4	31.6	33.3	34.8	36.0	37.0	37.9	38.6	39.2	39.8
63	3.88	9.46	14.9	19.7	23.7	27.1	29.9	32.1	33.9	35.4	36.6	37.7	38.5	39.3	39.9	40.5
64	3.94	9.61	15.2	20.0	24.1	27.5	30.4	32.6	34.5	36.0	37.3	38.3	39.2	40.0	40.6	41.2
65	4.00	9.76	15.4	20.3	24.5	27.9	30.9	33.2	35.0	36.6	37.9	39.0	39.9	40.7	41.3	41.9
66	4.07	9.91	15.6	20.6	24.8	28.4	31.3	33.7	35.6	37.2	38.5	39.6	40.5	41.3	42.0	42.6
67	4.13	10.1	15.9	20.9	25.2	28.8	31.8	34.2	36.2	37.8	39.1	40.3	41.2	42.0	42.7	43.3
68	4.19	10.2	16.1	21.3	25.6	29.2	32.3	34.7	36.7	38.4	39.8	40.9	41.9	42.7	43.4	44.1
69	4.25	10.4	16.4	21.6	26.0	29.7	32.8	35.3	37.3	39.0	40.4	41.6	42.5	43.4	44.1	44.8
70	4.31	10.5	16.6	21.9	26.3	30.1	33.2	35.8	37.9	39.6	41.0	42.2	43.2	44.1	44.8	45.5
71	4.37	10.7	16.8	22.2	26.7	30.5	33.7	36.3	38.4	40.2	41.6	42.8	43.9	44.8	45.5	46.2
72	4.44	10.8	17.1	22.5	27.1	30.9	34.2	36.8	39.0	40.8	42.2	43.5	44.5	45.5	46.2	46.9
73	4.50	11.0	17.3	22.8	27.5	31.4	34.7	37.4	39.5	41.4	42.9	44.1	45.2	46.1	46.9	47.6
74	4.56	11.1	17.5	23.1	27.9	31.8	35.1	37.9	40.1	42.0	43.5	44.8	45.9	46.8	47.6	48.3
75	4.62	11.3	17.8	23.5	28.2	32.2	35.6	38.4	40.7	42.5	44.1	45.4	46.6	47.5	48.3	49.1
76	4.68	11.4	18.0	23.8	28.6	32.7	36.1	38.9	41.2	43.1	44.7	46.1	47.2	48.2	49.0	49.8
77	4.74	11.6	18.3	24.1	29.0	33.1	36.5	39.5	41.8	43.7	45.4	46.7	47.9	48.9	49.7	50.5
78	4.80	11.7	18.5	24.4	29.4	33.5	37.0	40.0	42.4	44.3	46.0	47.4	48.5	49.6	50.4	51.2
79	4.87	11.9	18.7	24.7	29.7	33.9	37.5	40.5	42.9	44.9	46.6	48.0	49.2	50.2	51.1	51.9
80	4.93	12.0	19.0	25.0	30.1	34.4	38.0	41.0	43.5	45.5	47.2	48.7	49.9	50.9	51.8	52.6
81	4.99	12.2	19.2	25.3	30.5	34.8	38.4	41.5	44.0	46.1	47.8	49.3	50.5	51.6	52.5	53.3
82	5.05	12.3	19.4	25.6	30.9	35.2	38.9	42.0	44.6	46.7	48.5	49.9	51.2	52.3	53.2	54.0
83	5.11	12.5	19.7	26.0	31.2	35.7	39.4	42.6	45.1	47.3	49.1	50.6	51.9	53.0	53.9	54.8
84	5.17	12.6	19.9	26.3	31.6	36.1	39.9	43.1	45.7	47.9	49.7	51.2	52.5	53.7	54.6	55.5
85	5.24	12.8	20.2	26.6	32.0	36.5	40.3	43.6	46.3	48.5	50.3	51.9	53.2	54.3	55.3	56.2
86	5.30	12.9	20.4	26.9	32.4	37.0	40.8	44.1	46.8	49.1	50.9	52.5	53.9	55.0	56.0	56.9
87	5.36	13.1	20.6	27.2	32.7	37.4	41.3	44.6	47.4	49.6	51.6	53.2	54.5	55.7	56.7	57.6
88	5.42	13.2	20.9	27.5	33.1	37.8	41.8	45.1	47.9	50.2	52.2	53.8	55.2	56.4	57.4	58.3
89	5.48	13.4	21.1	27.8	33.5	38.2	42.2	45.6	48.5	50.8	52.8	54.4	55.9	57.1	58.1	59.0
90	5.54	13.5	21.3	28.1	33.9	38.7	42.7	46.2	49.0	51.4	53.4	55.1	56.5	57.8	58.8	59.8
91	5.61	13.7	21.6	28.5	34.2	39.1	43.2	46.7	49.6	52.0	54.0	55.7	57.2	58.4	59.5	60.5
92	5.67	13.8	21.8	28.8	34.6	39.5	43.7	47.2	50.1	52.6	54.6	56.4	57.9	59.1	60.2	61.2
93	5.73	14.0	22.0	29.1	35.0	40.0	44.1	47.7	50.7	53.2	55.3	57.0	58.5	59.8	60.9	61.9
94	5.79	14.1	22.3	29.4	35.4	40.4	44.6	48.2	51.2	53.8	55.9	57.7	59.2	60.5	61.6	62.6
95	5.85	14.3	22.5	29.7	35.8	40.8	45.1	48.7	51.8	54.3	56.5	58.3	59.8	61.2	62.3	63.3
96	5.91	14.4	22.8	30.0	36.1	41.3	45.6	49.2	52.3	54.9	57.1	58.9	60.5	61.9	63.0	64.0
97	5.98	14.6	23.0	30.3	36.5	41.7	46.0	49.7	52.9	55.5	57.7	59.6	61.2	62.5	63.7	64.7
98	6.04	14.7	23.2	30.6	36.9	42.1	46.5	50.3	53.4	56.1	58.3	60.2	61.8	63.2	64.4	65.5
99	6.10	14.9	23.5	31.0	37.3	42.5	47.0	50.8	54.0	56.7	58.9	60.9	62.5	63.9	65.1	66.2
100	6.16	15.0	23.7	31.3	37.6	43.0	47.5	51.3	54.5	57.3	59.5	61.5	63.2	64.6	65.8	66.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																			k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110						
50	31.7	32.0	32.3	32.5	32.8	33.4	34.2	34.8	35.2	35.6	36.0									36.0	50
51	32.4	32.7	33.0	33.3	33.5	34.2	35.0	35.6	36.0	36.4	36.8									36.9	51
52	33.1	33.4	33.7	34.0	34.3	34.9	35.7	36.3	36.8	37.2	37.6									37.7	52
53	33.8	34.2	34.5	34.8	35.0	35.7	36.5	37.1	37.6	38.0	38.4									38.6	53
54	34.5	34.9	35.2	35.5	35.8	36.4	37.3	37.9	38.4	38.9	39.2									39.5	54
55	35.2	35.6	35.9	36.2	36.5	37.2	38.1	38.7	39.2	39.7	40.0									40.4	55
56	36.0	36.3	36.7	37.0	37.3	38.0	38.8	39.5	40.0	40.5	40.8									41.2	56
57	36.7	37.1	37.4	37.7	38.0	38.7	39.6	40.3	40.8	41.3	41.7									42.1	57
58	37.4	37.8	38.1	38.5	38.8	39.5	40.4	41.1	41.6	42.1	42.5									43.0	58
59	38.1	38.5	38.9	39.2	39.5	40.3	41.2	41.9	42.4	42.9	43.3									43.9	59
60	38.8	39.3	39.6	40.0	40.3	41.0	42.0	42.7	43.2	43.7	44.1	44.8								44.8	60
61	39.6	40.0	40.4	40.7	41.0	41.8	42.8	43.5	44.0	44.5	44.9	45.6								45.6	61
62	40.3	40.7	41.1	41.4	41.8	42.6	43.5	44.3	44.9	45.3	45.7	46.4								46.5	62
63	41.0	41.4	41.8	42.2	42.5	43.3	44.3	45.1	45.7	46.1	46.6	47.2								47.4	63
64	41.7	42.2	42.6	42.9	43.3	44.1	45.1	45.9	46.5	47.0	47.4	48.1								48.3	64
65	42.4	42.9	43.3	43.7	44.0	44.9	45.9	46.7	47.3	47.8	48.2	48.9								49.2	65
66	43.2	43.6	44.1	44.4	44.8	45.6	46.7	47.5	48.1	48.6	49.0	49.7								50.1	66
67	43.9	44.4	44.8	45.2	45.5	46.4	47.5	48.3	48.9	49.4	49.8	50.6								51.0	67
68	44.6	45.1	45.5	45.9	46.3	47.2	48.3	49.1	49.7	50.2	50.7	51.4								51.9	68
69	45.3	45.8	46.3	46.7	47.0	47.9	49.1	49.9	50.5	51.0	51.5	52.2								52.8	69
70	46.1	46.6	47.0	47.4	47.8	48.7	49.8	50.7	51.3	51.9	52.3	53.1	53.7							53.7	70
71	46.8	47.3	47.8	48.2	48.6	49.5	50.6	51.5	52.1	52.7	53.2	53.9	54.5							54.6	71
72	47.5	48.0	48.5	48.9	49.3	50.3	51.4	52.3	53.0	53.5	54.0	54.7	55.3							55.5	72
73	48.2	48.8	49.2	49.7	50.1	51.0	52.2	53.1	53.8	54.3	54.8	55.6	56.2							56.4	73
74	49.0	49.5	50.0	50.4	50.8	51.8	53.0	53.9	54.6	55.2	55.6	56.4	57.0							57.3	74
75	49.7	50.2	50.7	51.2	51.6	52.6	53.8	54.7	55.4	56.0	56.5	57.3	57.9							58.2	75
76	50.4	51.0	51.5	51.9	52.3	53.4	54.6	55.5	56.2	56.8	57.3	58.1	58.7							59.1	76
77	51.1	51.7	52.2	52.7	53.1	54.1	55.4	56.3	57.0	57.6	58.1	58.9	59.6							60.0	77
78	51.9	52.4	53.0	53.4	53.9	54.9	56.2	57.1	57.9	58.5	59.0	59.8	60.4							60.9	78
79	52.6	53.2	53.7	54.2	54.6	55.7	57.0	57.9	58.7	59.3	59.8	60.6	61.3							61.8	79
80	53.3	53.9	54.5	54.9	55.4	56.5	57.8	58.8	59.5	60.1	60.6	61.5	62.1							62.7	80
81	54.0	54.6	55.2	55.7	56.1	57.2	58.6	59.6	60.3	60.9	61.5	62.3	63.0							63.6	81
82	54.8	55.4	55.9	56.4	56.9	58.0	59.4	60.4	61.2	61.8	62.3	63.1	63.8							64.5	82
83	55.5	56.1	56.7	57.2	57.7	58.8	60.2	61.2	62.0	62.6	63.1	64.0	64.7							65.4	83
84	56.2	56.9	57.4	58.0	58.4	59.6	61.0	62.0	62.8	63.4	64.0	64.8	65.5							66.3	84
85	56.9	57.6	58.2	58.7	59.2	60.4	61.8	62.8	63.6	64.3	64.8	65.7	66.4							67.2	85
86	57.7	58.3	58.9	59.5	59.9	61.1	62.6	63.6	64.4	65.1	65.6	66.5	67.2							68.1	86
87	58.4	59.1	59.7	60.2	60.7	61.9	63.4	64.5	65.3	65.9	66.5	67.4	68.1							69.0	87
88	59.1	59.8	60.4	61.0	61.5	62.7	64.2	65.3	66.1	66.8	67.3	68.2	68.9							69.9	88
89	59.8	60.5	61.2	61.7	62.2	63.5	65.0	66.1	66.9	67.6	68.2	69.1	69.8							70.8	89
90	60.6	61.3	61.9	62.5	63.0	64.3	65.8	66.9	67.7	68.4	69.0	69.9	70.6	71.8						71.8	90
91	61.3	62.0	62.7	63.2	63.8	65.0	66.6	67.7	68.6	69.3	69.8	70.8	71.5	72.6						72.7	91
92	62.0	62.8	63.4	64.0	64.5	65.8	67.4	68.5	69.4	70.1	70.7	71.6	72.3	73.5						73.6	92
93	62.7	63.5	64.2	64.7	65.3	66.6	68.2	69.3	70.2	70.9	71.5	72.5	73.2	74.4						74.5	93
94	63.5	64.2	64.9	65.5	66.0	67.4	69.0	70.2	71.1	71.8	72.4	73.3	74.1	75.2						75.4	94
95	64.2	65.0	65.6	66.3	66.8	68.2	69.8	71.0	71.9	72.6	73.2	74.2	74.9	76.1						76.3	95
96	64.9	65.7	66.4	67.0	67.6	69.0	70.6	71.8	72.7	73.4	74.0	75.0	75.8	77.0						77.2	96
97	65.6	66.4	67.1	67.8	68.3	69.7	71.4	72.6	73.5	74.3	74.9	75.9	76.6	77.8						78.2	97
98	66.4	67.2	67.9	68.5	69.1	70.5	72.2	73.4	74.4	75.1	75.7	76.7	77.5	78.7						79.1	98
99	67.1	67.9	68.6	69.3	69.9	71.3	73.0	74.3	75.2	76.0	76.6	77.6	78.4	79.6						80.0	99
100	67.8	68.7	69.4	70.0	70.6	72.1	73.8	75.1	76.0	76.8	77.4	78.4	79.2	80.4						80.9	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110					k=N	N
	k																				

N	k																N
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
100	6.16	15.0	23.7	31.3	37.6	43.0	47.5	51.3	54.5	57.3	59.5	61.5	63.2	64.6	65.8	66.9	100
102	6.28	15.3	24.2	31.9	38.4	43.8	48.4	52.3	55.6	58.4	60.8	62.8	64.5	65.9	67.2	68.3	102
104	6.41	15.6	24.7	32.5	39.1	44.7	49.4	53.3	56.7	59.6	62.0	64.0	65.8	67.3	68.6	69.7	104
106	6.53	15.9	25.1	33.1	39.9	45.6	50.3	54.4	57.8	60.7	63.2	65.3	67.1	68.7	70.0	71.2	106
108	6.65	16.2	25.6	33.8	40.6	46.4	51.3	55.4	58.9	61.9	64.4	66.6	68.4	70.0	71.4	72.6	108
110	6.78	16.5	26.1	34.4	41.4	47.3	52.2	56.4	60.0	63.1	65.7	67.9	69.7	71.4	72.8	74.0	110
112	6.90	16.8	26.6	35.0	42.2	48.1	53.2	57.4	61.1	64.2	66.9	69.1	71.1	72.7	74.2	75.4	112
114	7.02	17.1	27.0	35.6	42.9	49.0	54.1	58.5	62.2	65.4	68.1	70.4	72.4	74.1	75.6	76.8	114
116	7.15	17.4	27.5	36.3	43.7	49.8	55.1	59.5	63.3	66.5	69.3	71.7	73.7	75.4	77.0	78.3	116
118	7.27	17.7	28.0	36.9	44.4	50.7	56.0	60.5	64.4	67.7	70.5	72.9	75.0	76.8	78.3	79.7	118
120	7.39	18.0	28.4	37.5	45.2	51.6	57.0	61.5	65.5	68.8	71.7	74.2	76.3	78.1	79.7	81.1	120
122	7.52	18.3	28.9	38.1	45.9	52.4	57.9	62.6	66.5	69.9	72.9	75.5	77.6	79.5	81.1	82.5	122
124	7.64	18.6	29.4	38.8	46.7	53.3	58.9	63.6	67.6	71.1	74.1	76.7	78.9	80.8	82.5	83.9	124
126	7.76	18.9	29.9	39.4	47.4	54.1	59.8	64.6	68.7	72.2	75.3	78.0	80.2	82.2	83.9	85.4	126
128	7.88	19.2	30.3	40.0	48.2	55.0	60.8	65.6	69.8	73.4	76.5	79.2	81.5	83.5	85.3	86.8	128
130	8.01	19.5	30.8	40.6	48.9	55.9	61.7	66.7	70.9	74.5	77.7	80.5	82.9	84.9	86.7	88.2	130
132	8.13	19.8	31.3	41.3	49.7	56.7	62.7	67.7	72.0	75.7	78.9	81.7	84.2	86.2	88.0	89.6	132
134	8.25	20.1	31.8	41.9	50.4	57.6	63.6	68.7	73.1	76.8	80.1	83.0	85.5	87.6	89.4	91.0	134
136	8.38	20.4	32.2	42.5	51.2	58.4	64.6	69.7	74.2	78.0	81.3	84.2	86.8	88.9	90.8	92.4	136
138	8.50	20.7	32.7	43.2	51.9	59.3	65.5	70.8	75.3	79.1	82.5	85.5	88.1	90.3	92.2	93.9	138
140	8.62	21.0	33.2	43.8	52.7	60.2	66.5	71.8	76.4	80.3	83.7	86.7	89.4	91.6	93.6	95.3	140
142	8.75	21.3	33.7	44.4	53.4	61.0	67.4	72.8	77.5	81.4	84.9	87.9	90.6	92.9	94.9	96.7	142
144	8.87	21.6	34.1	45.0	54.2	61.9	68.4	73.8	78.5	82.6	86.1	89.2	91.9	94.3	96.3	98.1	144
146	8.99	21.9	34.6	45.7	54.9	62.7	69.3	74.9	79.6	83.7	87.3	90.4	93.2	95.6	97.7	99.5	146
148	9.12	22.2	35.1	46.3	55.7	63.6	70.3	75.9	80.7	84.9	88.5	91.6	94.5	97.0	99.1	100.9	148
150	9.24	22.5	35.6	46.9	56.5	64.5	71.2	76.9	81.8	86.0	89.7	92.9	95.7	98.3	100.4	102.3	150
152	9.36	22.8	36.0	47.5	57.2	65.3	72.1	77.9	82.9	87.1	90.9	94.1	97.0	99.6	101.8	103.7	152
154	9.49	23.1	36.5	48.2	58.0	66.2	73.1	79.0	84.0	88.3	92.1	95.4	98.3	100.9	103.2	105.1	154
156	9.61	23.4	37.0	48.8	58.7	67.0	74.0	80.0	85.1	89.4	93.2	96.6	99.6	102.2	104.5	106.5	156
158	9.73	23.7	37.5	49.4	59.5	67.9	75.0	81.0	86.2	90.6	94.4	97.8	100.8	103.5	105.9	107.9	158
160	9.86	24.0	37.9	50.0	60.2	68.8	75.9	82.0	87.3	91.7	95.6	99.1	102.1	104.8	107.3	109.3	160
162	9.98	24.3	38.4	50.7	61.0	69.6	76.9	83.1	88.4	92.9	96.8	100.3	103.4	106.2	108.6	110.7	162
164	10.1	24.6	38.9	51.3	61.7	70.5	77.8	84.1	89.5	94.0	98.0	101.6	104.7	107.5	110.0	112.1	164
166	10.2	24.9	39.4	51.9	62.5	71.3	78.8	85.1	90.5	95.2	99.2	102.8	106.0	108.8	111.3	113.5	166
168	10.3	25.2	39.8	52.5	63.2	72.2	79.7	86.2	91.6	96.3	100.4	104.0	107.2	110.1	112.7	114.9	168
170	10.5	25.5	40.3	53.2	64.0	73.1	80.7	87.2	92.7	97.5	101.6	105.3	108.5	111.4	114.0	116.3	170
172	10.6	25.8	40.8	53.8	64.7	73.9	81.6	88.2	93.8	98.6	102.8	106.5	109.8	112.7	115.3	117.7	172
174	10.7	26.1	41.2	54.4	65.5	74.8	82.6	89.2	94.9	99.8	104.0	107.7	111.1	114.0	116.7	119.1	174
176	10.8	26.4	41.7	55.0	66.2	75.6	83.5	90.3	96.0	100.9	105.2	109.0	112.3	115.3	118.0	120.4	176
178	11.0	26.7	42.2	55.7	67.0	76.5	84.5	91.3	97.1	102.1	106.4	110.2	113.6	116.6	119.4	121.8	178
180	11.1	27.0	42.7	56.3	67.7	77.4	85.4	92.3	98.2	103.2	107.6	111.5	114.9	117.9	120.7	123.2	180
182	11.2	27.3	43.1	56.9	68.5	78.2	86.4	93.3	99.3	104.4	108.8	112.7	116.2	119.3	122.0	124.5	182
184	11.3	27.6	43.6	57.5	69.3	79.1	87.3	94.4	100.4	105.5	110.0	113.9	117.4	120.6	123.4	125.9	184
186	11.5	27.9	44.1	58.2	70.0	79.9	88.3	95.4	101.5	106.6	111.2	115.2	118.7	121.9	124.7	127.3	186
188	11.6	28.2	44.6	58.8	70.8	80.8	89.2	96.4	102.5	107.8	112.4	116.4	120.0	123.2	126.1	128.7	188
190	11.7	28.5	45.0	59.4	71.5	81.6	90.2	97.4	103.6	108.9	113.6	117.6	121.3	124.5	127.4	130.0	190
192	11.8	28.8	45.5	60.0	72.3	82.5	91.1	98.5	104.7	110.1	114.8	118.9	122.5	125.8	128.7	131.4	192
194	12.0	29.1	46.0	60.7	73.0	83.4	92.1	99.5	105.8	111.2	116.0	120.1	123.8	127.1	130.1	132.8	194
196	12.1	29.4	46.5	61.3	73.8	84.2	93.0	100.5	106.9	112.4	117.2	121.4	125.1	128.4	131.4	134.1	196
198	12.2	29.7	46.9	61.9	74.5	85.1	94.0	101.5	108.0	113.5	118.4	122.6	126.4	129.7	132.8	135.5	198
200	12.3	30.0	47.4	62.5	75.3	85.9	94.9	102.6	109.1	114.7	119.5	123.8	127.7	131.1	134.1	136.9	200
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	N
	k																

k																k=N	N
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110			
67.8	68.7	69.4	70.0	70.6	72.1	73.8	75.1	76.0	76.8	77.4	78.4	79.2	80.4		80.9	100	
69.3	70.1	70.9	71.6	72.2	73.7	75.5	76.7	77.7	78.5	79.1	80.1	80.9	82.2		82.7	102	
70.7	71.6	72.4	73.1	73.7	75.2	77.1	78.4	79.4	80.1	80.8	81.8	82.7	83.9		84.6	104	
72.2	73.1	73.9	74.6	75.2	76.8	78.7	80.0	81.0	81.8	82.5	83.6	84.4	85.6		86.4	106	
73.6	74.5	75.4	76.1	76.8	78.4	80.3	81.7	82.7	83.5	84.2	85.3	86.1	87.4		88.3	108	
75.1	76.0	76.9	77.6	78.3	79.9	81.9	83.3	84.4	85.2	85.9	87.0	87.8	89.1	90.1	90.1	110	
76.5	77.5	78.4	79.1	79.8	81.5	83.5	85.0	86.0	86.9	87.6	88.7	89.6	90.9	91.9	92.0	112	
78.0	79.0	79.9	80.6	81.3	83.1	85.2	86.6	87.7	88.6	89.3	90.4	91.3	92.6	93.6	93.8	114	
79.4	80.4	81.3	82.2	82.9	84.7	86.8	88.3	89.4	90.3	91.0	92.1	93.0	94.4	95.4	95.7	116	
80.9	81.9	82.8	83.7	84.4	86.2	88.4	89.9	91.0	92.0	92.7	93.9	94.8	96.1	97.2	97.5	118	
82.3	83.4	84.3	85.2	85.9	87.8	90.0	91.6	92.7	93.6	94.4	95.6	96.5	97.9	98.9	99.4	120	
83.8	84.9	85.8	86.7	87.5	89.4	91.6	93.2	94.4	95.3	96.1	97.3	98.2	99.7	100.7	101.2	122	
85.2	86.3	87.3	88.2	89.0	91.0	93.3	94.9	96.1	97.0	97.8	99.0	100.0	101.4	102.5	103.1	124	
86.7	87.8	88.8	89.7	90.5	92.5	94.9	96.5	97.8	98.7	99.5	100.8	101.7	103.2	104.3	105.0	126	
88.1	89.3	90.3	91.2	92.1	94.1	96.5	98.2	99.4	100.4	101.2	102.5	103.5	104.9	106.0	106.8	128	
89.6	90.7	91.8	92.8	93.6	95.7	98.1	99.8	101.1	102.1	102.9	104.2	105.2	106.7	107.8	108.7	130	
91.0	92.2	93.3	94.3	95.1	97.3	99.8	101.5	102.8	103.8	104.7	106.0	107.0	108.5	109.6	110.5	132	
92.4	93.7	94.8	95.8	96.7	98.8	101.4	103.2	104.5	105.5	106.4	107.7	108.7	110.2	111.3	112.4	134	
93.9	95.2	96.3	97.3	98.2	100.4	103.0	104.8	106.2	107.2	108.1	109.4	110.5	112.0	113.1	114.3	136	
95.3	96.6	97.8	98.8	99.7	102.0	104.6	106.5	107.9	108.9	109.8	111.2	112.2	113.8	114.9	116.2	138	
96.8	98.1	99.3	100.3	101.3	103.6	106.3	108.1	109.5	110.6	111.5	112.9	113.9	115.5	116.7	118.0	140	
98.2	99.6	100.8	101.8	102.8	105.1	107.9	109.8	111.2	112.3	113.2	114.6	115.7	117.3	118.5	119.9	142	
99.6	101.0	102.3	103.3	104.3	106.7	109.5	111.5	112.9	114.0	115.0	116.4	117.5	119.1	120.2	121.8	144	
101.1	102.5	103.7	104.9	105.9	108.3	111.2	113.1	114.6	115.7	116.7	118.1	119.2	120.8	122.0	123.6	146	
102.5	104.0	105.2	106.4	107.4	109.9	112.8	114.8	116.3	117.5	118.4	119.8	121.0	122.6	123.8	125.5	148	
104.0	105.4	106.7	107.9	108.9	111.5	114.4	116.5	118.0	119.2	120.1	121.6	122.7	124.4	125.6	127.4	150	
105.4	106.9	108.2	109.4	110.4	113.0	116.1	118.1	119.7	120.9	121.8	123.3	124.5	126.1	127.4	129.3	152	
106.8	108.4	109.7	110.9	112.0	114.6	117.7	119.8	121.4	122.6	123.6	125.1	126.2	127.9	129.2	131.2	154	
108.3	109.8	111.2	112.4	113.5	116.2	119.3	121.5	123.1	124.3	125.3	126.8	128.0	129.7	131.0	133.0	156	
109.7	111.3	112.7	113.9	115.0	117.8	121.0	123.1	124.7	126.0	127.0	128.6	129.7	131.5	132.8	134.9	158	
111.1	112.7	114.2	115.4	116.6	119.3	122.6	124.8	126.4	127.7	128.7	130.3	131.5	133.3	134.5	136.8	160	
112.6	114.2	115.6	116.9	118.1	120.9	124.2	126.5	128.1	129.4	130.5	132.1	133.3	135.0	136.3	138.7	162	
114.0	115.7	117.1	118.4	119.6	122.5	125.8	128.1	129.8	131.1	132.2	133.8	135.0	136.8	138.1	140.6	164	
115.4	117.1	118.6	119.9	121.1	124.1	127.5	129.8	131.5	132.9	133.9	135.6	136.8	138.6	139.9	142.5	166	
116.9	118.6	120.1	121.4	122.7	125.6	129.1	131.5	133.2	134.6	135.6	137.3	138.6	140.4	141.7	144.3	168	
118.3	120.0	121.6	123.0	124.2	127.2	130.7	133.2	134.9	136.3	137.4	139.1	140.3	142.2	143.5	146.2	170	
119.7	121.5	123.1	124.5	125.7	128.8	132.4	134.8	136.6	138.0	139.1	140.8	142.1	143.9	145.3	148.1	172	
121.2	122.9	124.5	126.0	127.2	130.4	134.0	136.5	138.3	139.7	140.8	142.6	143.8	145.7	147.1	150.0	174	
122.6	124.4	126.0	127.5	128.8	131.9	135.6	138.2	140.0	141.4	142.6	144.3	145.6	147.5	148.9	151.9	176	
124.0	125.9	127.5	129.0	130.3	133.5	137.3	139.8	141.7	143.1	144.3	146.1	147.4	149.3	150.7	153.8	178	
125.4	127.3	129.0	130.5	131.8	135.1	138.9	141.5	143.4	144.9	146.0	147.8	149.2	151.1	152.5	155.7	180	
126.8	128.8	130.5	132.0	133.3	136.7	140.6	143.2	145.1	146.6	147.8	149.6	150.9	152.9	154.3	157.6	182	
128.2	130.2	131.9	133.5	134.9	138.2	142.2	144.9	146.8	148.3	149.5	151.3	152.7	154.7	156.1	159.5	184	
129.6	131.7	133.4	135.0	136.4	139.8	143.8	146.5	148.5	150.0	151.2	153.1	154.5	156.5	157.9	161.4	186	
131.0	133.1	134.9	136.5	137.9	141.4	145.5	148.2	150.2	151.7	153.0	154.8	156.2	158.2	159.7	163.3	188	
132.4	134.6	136.4	138.0	139.4	143.0	147.1	149.9	151.9	153.5	154.7	156.6	158.0	160.0	161.5	165.2	190	
133.8	136.0	137.8	139.5	140.9	144.5	148.7	151.6	153.6	155.2	156.4	158.4	159.8	161.8	163.3	167.0	192	
135.2	137.4	139.3	141.0	142.5	146.1	150.4	153.2	155.3	156.9	158.2	160.1	161.6	163.6	165.1	168.9	194	
136.6	138.8	140.8	142.5	144.0	147.7	152.0	154.9	157.0	158.6	159.9	161.9	163.3	165.4	166.9	170.8	196	
138.0	140.2	142.3	144.0	145.5	149.3	153.6	156.6	158.7	160.4	161.7	163.6	165.1	167.2	168.7	172.7	198	
139.4	141.7	143.7	145.5	147.0	150.8	155.3	158.3	160.4	162.1	163.4	165.4	166.9	169.0	170.5	174.6	200	
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N	
k																	

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	12.3	30.0	47.4	62.5	75.3	85.9	94.9	102.6	109.1	114.7	119.5	123.8	127.7	131.1	134.1	136.9
202	12.4	30.3	47.9	63.2	76.0	86.8	95.9	103.6	110.2	115.8	120.7	125.1	128.9	132.4	135.4	138.2
204	12.6	30.6	48.4	63.8	76.8	87.7	96.8	104.6	111.3	117.0	121.9	126.3	130.2	133.7	136.8	139.6
206	12.7	30.9	48.8	64.4	77.5	88.5	97.8	105.6	112.4	118.1	123.1	127.6	131.5	135.0	138.1	141.0
208	12.8	31.2	49.3	65.0	78.3	89.4	98.7	106.7	113.5	119.3	124.3	128.8	132.8	136.3	139.5	142.3
210	12.9	31.5	49.8	65.7	79.0	90.2	99.7	107.7	114.5	120.4	125.5	130.0	134.0	137.6	140.8	143.7
212	13.1	31.8	50.3	66.3	79.8	91.1	100.6	108.7	115.6	121.6	126.7	131.3	135.3	138.9	142.2	145.1
214	13.2	32.1	50.7	66.9	80.5	92.0	101.6	109.7	116.7	122.7	127.9	132.5	136.6	140.2	143.5	146.4
216	13.3	32.4	51.2	67.5	81.3	92.8	102.5	110.8	117.8	123.8	129.1	133.7	137.9	141.5	144.8	147.8
218	13.4	32.7	51.7	68.2	82.0	93.7	103.5	111.8	118.9	125.0	130.3	135.0	139.1	142.8	146.2	149.2
220	13.6	33.0	52.2	68.8	82.8	94.5	104.4	112.8	120.0	126.1	131.5	136.2	140.4	144.2	147.5	150.6
222	13.7	33.3	52.6	69.4	83.6	95.4	105.4	113.8	121.1	127.3	132.7	137.5	141.7	145.5	148.9	151.9
224	13.8	33.6	53.1	70.0	84.3	96.3	106.3	114.9	122.2	128.4	133.9	138.7	143.0	146.8	150.2	153.3
226	13.9	33.9	53.6	70.7	85.1	97.1	107.3	115.9	123.3	129.6	135.1	139.9	144.2	148.1	151.5	154.7
228	14.0	34.2	54.1	71.3	85.8	98.0	108.2	116.9	124.4	130.7	136.3	141.2	145.5	149.4	152.9	156.0
230	14.2	34.5	54.5	71.9	86.6	98.8	109.2	117.9	125.5	131.9	137.5	142.4	146.8	150.7	154.2	157.4
232	14.3	34.8	55.0	72.5	87.3	99.7	110.1	119.0	126.5	133.0	138.7	143.7	148.1	152.0	155.6	158.8
234	14.4	35.1	55.5	73.2	88.1	100.6	111.1	120.0	127.6	134.2	139.9	144.9	149.4	153.3	156.9	160.1
236	14.5	35.4	55.9	73.8	88.8	101.4	112.0	121.0	128.7	135.3	141.1	146.1	150.6	154.6	158.2	161.5
238	14.7	35.7	56.4	74.4	89.6	102.3	113.0	122.0	129.8	136.5	142.3	147.4	151.9	156.0	159.6	162.9
240	14.8	36.0	56.9	75.0	90.3	103.1	113.9	123.1	130.9	137.6	143.5	148.6	153.2	157.3	160.9	164.2
242	14.9	36.3	57.4	75.7	91.1	104.0	114.9	124.1	132.0	138.8	144.7	149.8	154.5	158.6	162.3	165.6
244	15.0	36.6	57.8	76.3	91.8	104.9	115.8	125.1	133.1	139.9	145.8	151.1	155.7	159.9	163.6	167.0
246	15.2	36.9	58.3	76.9	92.6	105.7	116.8	126.1	134.2	141.0	147.0	152.3	157.0	161.2	165.0	168.3
248	15.3	37.2	58.8	77.5	93.3	106.6	117.7	127.2	135.3	142.2	148.2	153.6	158.3	162.5	166.3	169.7
250	15.4	37.5	59.3	78.2	94.1	107.4	118.7	128.2	136.4	143.3	149.4	154.8	159.6	163.8	167.6	171.1
	.062	*.150*	*.236*	*.312*	*.376*	*.430*	*.474*	*.512*	*.544*	*.574*	*.598*	*.620*	*.638*	*.656*	*.672*	*.684*
300	18.5	45.0	71.1	93.8	112.9	128.9	142.4	153.8	163.6	172.0	179.3	185.8	191.5	196.6	201.2	205.3
	.062	*.152*	*.238*	*.312*	*.376*	*.430*	*.474*	*.514*	*.546*	*.574*	*.598*	*.618*	*.638*	*.654*	*.670*	*.684*
350	21.6	52.6	83.0	109.4	131.7	150.4	166.1	179.5	190.9	200.7	209.2	216.7	223.4	229.3	234.7	239.5
	.060	*.150*	*.236*	*.314*	*.376*	*.430*	*.476*	*.512*	*.546*	*.572*	*.598*	*.620*	*.638*	*.656*	*.670*	*.684*
400	24.6	60.1	94.8	125.1	150.5	171.9	189.9	205.1	218.2	229.3	239.1	247.7	255.3	262.1	268.2	273.7
	.062	*.150*	*.238*	*.312*	*.378*	*.430*	*.474*	*.514*	*.546*	*.574*	*.598*	*.618*	*.638*	*.656*	*.670*	*.686*
450	27.7	67.6	106.7	140.7	169.4	193.4	213.6	230.8	245.5	258.0	269.0	278.6	287.2	294.9	301.7	308.0
	.062	*.150*	*.236*	*.312*	*.376*	*.430*	*.474*	*.512*	*.544*	*.574*	*.598*	*.620*	*.638*	*.654*	*.672*	*.684*
500	30.8	75.1	118.5	156.3	188.2	214.9	237.3	256.4	272.7	286.7	298.9	309.6	319.1	327.6	335.3	342.2
	.062	*.150*	*.237*	*.313*	*.376*	*.429*	*.475*	*.513*	*.546*	*.573*	*.597*	*.619*	*.639*	*.656*	*.670*	*.684*
600	37.0	90.1	142.2	187.6	225.8	257.8	284.8	307.7	327.3	344.0	358.6	371.5	383.0	393.2	402.3	410.6
	.061	*.150*	*.237*	*.313*	*.377*	*.430*	*.475*	*.513*	*.545*	*.573*	*.598*	*.619*	*.638*	*.655*	*.671*	*.684*
700	43.1	105.1	165.9	218.9	263.5	300.8	332.3	359.0	381.8	401.3	418.4	433.4	446.8	458.7	469.4	479.0
	.062	*.150*	*.238*	*.312*	*.376*	*.430*	*.474*	*.512*	*.546*	*.574*	*.598*	*.620*	*.638*	*.655*	*.670*	*.685*
800	49.3	120.1	189.7	250.1	301.1	343.8	379.7	410.2	436.4	458.7	478.2	495.4	510.6	524.2	536.4	547.5
	.061	*.150*	*.237*	*.313*	*.376*	*.430*	*.475*	*.513*	*.545*	*.573*	*.598*	*.619*	*.638*	*.655*	*.671*	*.684*
900	55.4	135.1	213.4	281.4	338.7	386.8	427.2	461.5	490.9	516.0	538.0	557.3	574.4	589.7	603.5	615.9
	.062	*.150*	*.237*	*.313*	*.377*	*.429*	*.475*	*.513*	*.545*	*.574*	*.597*	*.619*	*.639*	*.656*	*.670*	*.684*
1000	61.6	150.1	237.1	312.7	376.4	429.7	474.7	512.8	545.4	573.4	597.7	619.2	638.3	655.3	670.5	684.3
	.062	*.151*	*.237*	*.313*	*.376*	*.430*	*.474*	*.513*	*.546*	*.573*	*.598*	*.619*	*.638*	*.655*	*.671*	*.685*
1100	67.8	165.2	260.8	344.0	414.0	472.7	522.1	564.1	600.0	630.7	657.5	681.1	702.1	720.8	737.6	752.8
	.0616	*.1501*	*.2371*	*.3127*	*.3764*	*.4297*	*.4747*	*.5128*	*.5454*	*.5734*	*.5977*	*.6192*	*.6383*	*.6553*	*.6705*	*.6843*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
139.4	141.7	143.7	145.5	147.0	150.8	155.3	158.3	160.4	162.1	163.4	165.4	166.9	169.0	170.5	174.6	200
140.8	143.1	145.2	147.0	148.5	152.4	156.9	159.9	162.1	163.8	165.1	167.2	168.7	170.8	172.3	176.5	202
142.2	144.5	146.6	148.5	150.1	154.0	158.5	161.6	163.8	165.5	166.9	168.9	170.4	172.6	174.1	178.4	204
143.6	145.9	148.1	150.0	151.6	155.6	160.2	163.3	165.5	167.3	168.6	170.7	172.2	174.4	176.0	180.4	206
144.9	147.3	149.5	151.5	153.1	157.1	161.8	165.0	167.2	169.0	170.4	172.4	174.0	176.2	177.8	182.3	208
146.3	148.7	150.9	153.0	154.6	158.7	163.4	166.6	168.9	170.7	172.1	174.2	175.8	178.0	179.6	184.2	210
147.7	150.2	152.4	154.4	156.1	160.3	165.1	168.3	170.7	172.4	173.8	176.0	177.5	179.8	181.4	186.1	212
149.1	151.6	153.8	155.9	157.6	161.8	166.7	170.0	172.4	174.2	175.6	177.7	179.3	181.6	183.2	188.0	214
150.5	153.0	155.2	157.3	159.2	163.4	168.3	171.7	174.1	175.9	177.3	179.5	181.1	183.4	185.0	189.9	216
151.9	154.4	156.7	158.8	160.7	165.0	170.0	173.3	175.8	177.6	179.1	181.3	182.9	185.2	186.8	191.8	218
153.3	155.8	158.1	160.2	162.2	166.5	171.6	175.0	177.5	179.3	180.8	183.0	184.7	187.0	188.6	193.7	220
154.7	157.2	159.6	161.7	163.7	168.1	173.2	176.7	179.2	181.1	182.6	184.8	186.4	188.8	190.5	195.6	222
156.1	158.7	161.0	163.1	165.1	169.7	174.9	178.4	180.9	182.8	184.3	186.6	188.2	190.6	192.3	197.5	224
157.5	160.1	162.4	164.6	166.6	171.2	176.5	180.0	182.6	184.5	186.0	188.3	190.0	192.4	194.1	199.4	226
158.9	161.5	163.9	166.1	168.1	172.8	178.1	181.7	184.3	186.3	187.8	190.1	191.8	194.2	195.9	201.3	228
160.3	162.9	165.3	167.5	169.6	174.4	179.8	183.4	186.0	188.0	189.5	191.9	193.6	196.0	197.7	203.2	230
161.7	164.3	166.7	169.0	171.0	175.9	181.4	185.1	187.7	189.7	191.3	193.6	195.4	197.8	199.5	205.1	232
163.1	165.7	168.2	170.4	172.5	177.5	183.0	186.8	189.4	191.4	193.0	195.4	197.2	199.6	201.3	207.1	234
164.5	167.2	169.6	171.9	174.0	179.1	184.7	188.4	191.1	193.2	194.8	197.2	198.9	201.4	203.2	209.0	236
165.9	168.6	171.1	173.3	175.5	180.6	186.3	190.1	192.8	194.9	196.5	199.0	200.7	203.2	205.0	210.9	238
167.2	170.0	172.5	174.8	176.9	182.2	187.9	191.8	194.5	196.6	198.3	200.7	202.5	205.0	206.8	212.8	240
168.6	171.4	173.9	176.3	178.4	183.8	189.6	193.5	196.3	198.4	200.0	202.5	204.3	206.8	208.6	214.7	242
170.0	172.8	175.4	177.7	179.9	185.3	191.2	195.1	198.0	200.1	201.8	204.3	206.1	208.6	210.4	216.6	244
171.4	174.2	176.8	179.2	181.4	186.9	192.8	196.8	199.7	201.8	203.5	206.0	207.9	210.4	212.3	218.5	246
172.8	175.7	178.2	180.6	182.8	188.5	194.5	198.5	201.4	203.6	205.3	207.8	209.7	212.3	214.1	220.4	248
174.2	177.1	179.7	182.1	184.3	190.0	196.1	200.2	203.1	205.3	207.0	209.6	211.4	214.1	215.9	222.4	250
.698	*.708*	*.718*	*.728*	*.738*	*.760*	*.814*	*.838*	*.854*	*.866*	*.876*	*.888*	*.898*	*.906*	*.914*	*.960*	
209.1	212.5	215.6	218.5	221.2	228.0	236.8	242.1	245.8	248.6	250.8	254.0	256.3	259.4	261.6	270.4	300
.696	*.708*	*.720*	*.728*	*.736*	*.760*	*.790*	*.836*	*.856*	*.868*	*.878*	*.892*	*.900*	*.912*	*.918*	*.966*	
243.9	247.9	251.6	254.9	258.0	266.0	276.3	283.9	288.6	292.0	294.7	298.6	301.3	305.0	307.5	318.7	350
.696	*.708*	*.718*	*.728*	*.738*	*.760*	*.788*	*.812*	*.854*	*.868*	*.880*	*.894*	*.904*	*.914*	*.922*	*.970*	
278.7	283.3	287.5	291.3	294.9	304.0	315.7	324.5	331.3	335.4	338.7	343.3	346.5	350.7	353.6	367.2	400
.698	*.708*	*.718*	*.730*	*.736*	*.762*	*.790*	*.810*	*.828*	*.868*	*.878*	*.894*	*.904*	*.918*	*.924*	*.972*	
313.6	318.7	323.4	327.8	331.7	342.1	355.2	365.0	372.7	378.8	382.6	388.0	391.7	396.6	399.8	415.8	450
.696	*.708*	*.720*	*.728*	*.738*	*.760*	*.790*	*.812*	*.828*	*.842*	*.878*	*.896*	*.906*	*.920*	*.926*	*.974*	
348.4	354.1	359.4	364.2	368.6	380.1	394.7	405.6	414.1	420.9	426.5	432.8	437.0	442.6	446.1	464.5	500
.697	*.709*	*.718*	*.728*	*.737*	*.760*	*.789*	*.811*	*.828*	*.842*	*.853*	*.896*	*.908*	*.921*	*.929*	*.978*	
418.1	425.0	431.2	437.0	442.3	456.1	473.6	486.7	496.9	505.1	511.8	522.4	527.8	534.7	539.0	562.3	600
.697	*.708*	*.719*	*.728*	*.737*	*.760*	*.789*	*.811*	*.828*	*.842*	*.853*	*870*	*.908*	*.923*	*.932*	*.981*	
487.8	495.8	503.1	509.8	516.0	532.1	552.5	567.8	579.7	589.3	597.1	609.4	618.6	627.0	632.2	660.4	700
.697	*.708*	*.719*	*.729*	*.738*	*.760*	*.790*	*.811*	*.828*	*.842*	*.854*	*.871*	*.884*	*.925*	*.934*	*.983*	
557.5	566.6	575.0	582.7	589.8	608.1	631.5	648.9	662.5	673.5	682.5	696.5	707.0	719.5	725.6	758.7	800
.697	*.708*	*.719*	*.728*	*.737*	*.760*	*.789*	*.811*	*.828*	*.841*	*.853*	*.870*	*.883*	*.925*	*.935*	*.985*	
627.2	637.4	646.9	655.5	663.5	684.1	710.4	730.0	745.3	757.6	767.8	783.5	795.3	812.0	819.1	857.2	900
.697	*.709*	*.718*	*.728*	*.737*	*.760*	*.789*	*.812*	*.829*	*.842*	*.853*	*.871*	*.884*	*.902*	*.935*	*.987*	
696.9	708.3	718.7	728.3	737.2	760.1	789.3	811.2	828.2	841.8	853.1	870.6	883.7	902.2	912.6	955.9	1000
.696	*.708*	*.719*	*.729*	*.737*	*.760*	*.790*	*.811*	*.828*	*.842*	*.853*	*.870*	*.884*	*.902*	*.934*	*.991*	
766.5	779.1	790.6	801.2	810.9	836.1	868.3	892.3	911.0	926.0	938.4	957.6	972.1	992.4	1006.	1055.	1100
.6969	*.7083*	*.7187*	*.7283*	*.7372*	*.7601*	*.7893*	*.8112*	*.8282*	*.8418*	*.8531*	*.8706*	*.8837*	*.9022*	*.9148*		
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.116															
3	.192	.374														
4	.270	.545	.741													
5	.338	.722	.996	1.19												
6	.405	.901	1.26	1.51	1.69											
7	.473	1.08	1.53	1.84	2.07	2.24										
8	.541	1.26	1.80	2.18	2.46	2.66	2.83									
9	.608	1.44	2.07	2.53	2.85	3.10	3.29	3.44								
10	.676	1.60	2.35	2.88	3.26	3.54	3.76	3.94	4.08							
11	.743	1.76	2.62	3.23	3.66	3.99	4.24	4.44	4.60	4.74						
12	.811	1.92	2.89	3.58	4.07	4.44	4.72	4.95	5.13	5.29	5.43					
13	.878	2.08	3.17	3.93	4.49	4.90	5.22	5.47	5.67	5.84	5.99	6.12				
14	.946	2.24	3.44	4.28	4.90	5.36	5.71	5.99	6.22	6.40	6.57	6.71	6.83			
15	1.01	2.40	3.71	4.64	5.32	5.82	6.21	6.52	6.76	6.97	7.15	7.30	7.44	7.56		
16	1.08	2.56	3.98	4.99	5.73	6.29	6.71	7.05	7.32	7.54	7.73	7.90	8.04	8.17	8.29	
17	1.15	2.72	4.23	5.34	6.15	6.76	7.22	7.58	7.88	8.12	8.33	8.50	8.66	8.80	8.92	9.03
18	1.22	2.88	4.47	5.69	6.57	7.22	7.73	8.12	8.44	8.70	8.92	9.11	9.28	9.43	9.56	9.68
19	1.28	3.04	4.72	6.04	6.99	7.69	8.24	8.66	9.00	9.28	9.52	9.72	9.90	10.1	10.2	10.3
20	1.35	3.20	4.97	6.39	7.40	8.16	8.75	9.20	9.57	9.87	10.1	10.3	10.5	10.7	10.8	11.0
21	1.42	3.36	5.22	6.74	7.82	8.64	9.26	9.75	10.1	10.5	10.7	11.0	11.2	11.3	11.5	11.6
22	1.49	3.52	5.47	7.09	8.24	9.11	9.77	10.3	10.7	11.1	11.3	11.6	11.8	12.0	12.2	12.3
23	1.55	3.68	5.72	7.43	8.65	9.58	10.3	10.8	11.3	11.6	12.0	12.2	12.4	12.6	12.8	13.0
24	1.62	3.84	5.97	7.78	9.07	10.0	10.8	11.4	11.9	12.2	12.6	12.8	13.1	13.3	13.5	13.6
25	1.69	4.00	6.21	8.12	9.48	10.5	11.3	11.9	12.4	12.8	13.2	13.5	13.7	13.9	14.1	14.3
26	1.76	4.16	6.46	8.45	9.90	11.0	11.8	12.5	13.0	13.4	13.8	14.1	14.4	14.6	14.8	15.0
27	1.82	4.32	6.71	8.77	10.3	11.5	12.3	13.0	13.6	14.0	14.4	14.7	15.0	15.3	15.5	15.7
28	1.89	4.48	6.96	9.10	10.7	11.9	12.9	13.6	14.2	14.7	15.0	15.4	15.7	15.9	16.1	16.3
29	1.96	4.64	7.21	9.42	11.1	12.4	13.4	14.1	14.8	15.3	15.7	16.0	16.3	16.6	16.8	17.0
30	2.03	4.80	7.46	9.75	11.5	12.9	13.9	14.7	15.3	15.9	16.3	16.7	17.0	17.3	17.5	17.7
31	2.09	4.96	7.71	10.1	12.0	13.3	14.4	15.3	15.9	16.5	16.9	17.3	17.6	17.9	18.2	18.4
32	2.16	5.11	7.95	10.4	12.4	13.8	14.9	15.8	16.5	17.1	17.6	18.0	18.3	18.6	18.9	19.1
33	2.23	5.27	8.20	10.7	12.8	14.3	15.4	16.4	17.1	17.7	18.2	18.6	19.0	19.3	19.5	19.8
34	2.30	5.43	8.45	11.0	13.2	14.7	16.0	16.9	17.7	18.3	18.8	19.2	19.6	19.9	20.2	20.5
35	2.36	5.59	8.70	11.4	13.6	15.2	16.5	17.5	18.3	18.9	19.4	19.9	20.3	20.6	20.9	21.2
36	2.43	5.75	8.95	11.7	14.0	15.7	17.0	18.0	18.8	19.5	20.1	20.5	20.9	21.3	21.6	21.9
37	2.50	5.91	9.20	12.0	14.4	16.1	17.5	18.6	19.4	20.1	20.7	21.2	21.6	22.0	22.3	22.6
38	2.57	6.07	9.45	12.3	14.8	16.6	18.0	19.1	20.0	20.7	21.3	21.8	22.3	22.7	23.0	23.3
39	2.64	6.23	9.70	12.7	15.2	17.1	18.5	19.7	20.6	21.4	22.0	22.5	22.9	23.3	23.7	24.0
40	2.70	6.39	9.94	13.0	15.5	17.5	19.0	20.2	21.2	22.0	22.6	23.2	23.6	24.0	24.4	24.7
41	2.77	6.55	10.2	13.3	15.9	18.0	19.5	20.8	21.8	22.6	23.2	23.8	24.3	24.7	25.1	25.4
42	2.84	6.71	10.4	13.6	16.3	18.4	20.1	21.3	22.4	23.2	23.9	24.5	25.0	25.4	25.7	26.1
43	2.91	6.87	10.7	14.0	16.7	18.9	20.6	21.9	22.9	23.8	24.5	25.1	25.6	26.1	26.4	26.8
44	2.97	7.03	10.9	14.3	17.1	19.4	21.1	22.4	23.5	24.4	25.2	25.8	26.3	26.7	27.1	27.5
45	3.04	7.19	11.2	14.6	17.5	19.8	21.6	23.0	24.1	25.0	25.8	26.4	27.0	27.4	27.8	28.2
46	3.11	7.35	11.4	14.9	17.9	20.3	22.1	23.5	24.7	25.6	26.4	27.1	27.6	28.1	28.5	28.9
47	3.18	7.51	11.7	15.3	18.3	20.7	22.6	24.1	25.3	26.3	27.1	27.7	28.3	28.8	29.2	29.6
48	3.24	7.67	11.9	15.6	18.7	21.2	23.1	24.6	25.9	26.9	27.7	28.4	29.0	29.5	29.9	30.3
49	3.31	7.83	12.2	15.9	19.0	21.7	23.6	25.2	26.4	27.5	28.3	29.1	29.7	30.2	30.6	31.0
50	3.38	7.99	12.4	16.2	19.4	22.1	24.1	25.7	27.0	28.1	29.0	29.7	30.3	30.9	31.3	31.7
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
1																.0060	1
2																.116	2
3																.374	3
4																.741	4
5																1.19	5
6																1.69	6
7																2.24	7
8																2.83	8
9																3.44	9
10																4.08	10
11																4.74	11
12																5.43	12
13																6.12	13
14																6.83	14
15																7.56	15
16																8.29	16
17																9.03	17
18	9.79															9.79	18
19	10.4	10.6														10.6	19
20	11.1	11.2	11.3													11.3	20
21	11.8	11.9	12.0	12.1												12.1	21
22	12.4	12.6	12.7	12.8	12.9											12.9	22
23	13.1	13.2	13.4	13.5	13.6											13.7	23
24	13.8	13.9	14.1	14.2	14.3											14.5	24
25	14.5	14.6	14.7	14.9	15.0	15.3										15.3	25
26	15.2	15.3	15.4	15.6	15.7	16.0										16.1	26
27	15.8	16.0	16.1	16.3	16.4	16.7										16.9	27
28	16.5	16.7	16.8	17.0	17.1	17.4										17.7	28
29	17.2	17.4	17.5	17.7	17.8	18.2										18.5	29
30	17.9	18.1	18.2	18.4	18.5	18.9	19.4									19.4	30
31	18.6	18.8	19.0	19.1	19.2	19.6	20.1									20.2	31
32	19.3	19.5	19.7	19.8	20.0	20.3	20.8									21.0	32
33	20.0	20.2	20.4	20.5	20.7	21.1	21.6									21.9	33
34	20.7	20.9	21.1	21.3	21.4	21.8	22.3									22.7	34
35	21.4	21.6	21.8	22.0	22.1	22.6	23.1	23.5								23.5	35
36	22.1	22.3	22.5	22.7	22.9	23.3	23.9	24.3								24.4	36
37	22.8	23.0	23.2	23.4	23.6	24.0	24.6	25.1								25.2	37
38	23.5	23.8	24.0	24.2	24.3	24.8	25.4	25.8								26.1	38
39	24.2	24.5	24.7	24.9	25.1	25.5	26.1	26.6								26.9	39
40	24.9	25.2	25.4	25.6	25.8	26.3	26.9	27.4	27.8							27.8	40
41	25.7	25.9	26.1	26.3	26.5	27.0	27.7	28.2	28.6							28.6	41
42	26.4	26.6	26.9	27.1	27.3	27.8	28.4	28.9	29.4							29.5	42
43	27.1	27.3	27.6	27.8	28.0	28.5	29.2	29.7	30.1							30.4	43
44	27.8	28.1	28.3	28.5	28.8	29.3	30.0	30.5	30.9							31.2	44
45	28.5	28.8	29.1	29.3	29.5	30.0	30.7	31.3	31.7	32.1						32.1	45
46	29.2	29.5	29.8	30.0	30.2	30.8	31.5	32.1	32.5	32.9						33.0	46
47	29.9	30.2	30.5	30.8	31.0	31.6	32.3	32.9	33.3	33.7						33.8	47
48	30.7	31.0	31.3	31.5	31.7	32.3	33.1	33.6	34.1	34.5						34.7	48
49	31.4	31.7	32.0	32.2	32.5	33.1	33.8	34.4	34.9	35.3						35.6	49
50	32.1	32.4	32.7	33.0	33.2	33.8	34.6	35.2	35.7	36.1	36.5					36.5	50
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
	k																

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	3.38	7.99	12.4	16.2	19.4	22.1	24.1	25.7	27.0	28.1	29.0	29.7	30.3	30.9	31.3	31.7
51	3.45	8.15	12.7	16.6	19.8	22.5	24.6	26.3	27.6	28.7	29.6	30.4	31.0	31.6	32.0	32.5
52	3.51	8.31	12.9	16.9	20.2	23.0	25.1	26.8	28.2	29.3	30.2	31.0	31.7	32.2	32.7	33.2
53	3.58	8.47	13.2	17.2	20.6	23.4	25.6	27.4	28.8	29.9	30.9	31.7	32.4	32.9	33.4	33.9
54	3.65	8.63	13.4	17.5	21.0	23.9	26.1	27.9	29.4	30.5	31.5	32.3	33.0	33.6	34.1	34.6
55	3.72	8.79	13.7	17.9	21.4	24.3	26.6	28.5	29.9	31.2	32.2	33.0	33.7	34.3	34.8	35.3
56	3.78	8.95	13.9	18.2	21.8	24.7	27.1	29.0	30.5	31.8	32.8	33.7	34.4	35.0	35.6	36.0
57	3.85	9.11	14.2	18.5	22.2	25.2	27.6	29.5	31.1	32.4	33.4	34.3	35.1	35.7	36.3	36.7
58	3.92	9.27	14.4	18.8	22.5	25.6	28.1	30.1	31.7	33.0	34.1	35.0	35.7	36.4	37.0	37.5
59	3.99	9.43	14.7	19.2	22.9	26.1	28.6	30.6	32.3	33.6	34.7	35.6	36.4	37.1	37.7	38.2
60	4.05	9.59	14.9	19.5	23.3	26.5	29.1	31.2	32.8	34.2	35.3	36.3	37.1	37.8	38.4	38.9
61	4.12	9.75	15.2	19.8	23.7	27.0	29.6	31.7	33.4	34.8	36.0	36.9	37.8	38.5	39.1	39.6
62	4.19	9.91	15.4	20.1	24.1	27.4	30.1	32.3	34.0	35.4	36.6	37.6	38.4	39.2	39.8	40.3
63	4.26	10.1	15.7	20.5	24.5	27.8	30.6	32.8	34.6	36.0	37.2	38.3	39.1	39.9	40.5	41.0
64	4.32	10.2	15.9	20.8	24.9	28.3	31.1	33.3	35.2	36.6	37.9	38.9	39.8	40.5	41.2	41.8
65	4.39	10.4	16.2	21.1	25.3	28.7	31.6	33.9	35.7	37.3	38.5	39.6	40.5	41.2	41.9	42.5
66	4.46	10.5	16.4	21.4	25.7	29.2	32.1	34.4	36.3	37.9	39.2	40.2	41.1	41.9	42.6	43.2
67	4.53	10.7	16.7	21.8	26.0	29.6	32.6	35.0	36.9	38.5	39.8	40.9	41.8	42.6	43.3	43.9
68	4.59	10.9	16.9	22.1	26.4	30.0	33.1	35.5	37.5	39.1	40.4	41.5	42.5	43.3	44.0	44.6
69	4.66	11.0	17.2	22.4	26.8	30.5	33.6	36.0	38.0	39.7	41.1	42.2	43.2	44.0	44.7	45.4
70	4.73	11.2	17.4	22.7	27.2	30.9	34.1	36.6	38.6	40.3	41.7	42.9	43.9	44.7	45.4	46.1
71	4.80	11.3	17.7	23.1	27.6	31.4	34.5	37.1	39.2	40.9	42.3	43.5	44.5	45.4	46.1	46.8
72	4.86	11.5	17.9	23.4	28.0	31.8	35.0	37.7	39.8	41.5	43.0	44.2	45.2	46.1	46.9	47.5
73	4.93	11.7	18.1	23.7	28.4	32.3	35.5	38.2	40.3	42.1	43.6	44.8	45.9	46.8	47.6	48.2
74	5.00	11.8	18.4	24.0	28.8	32.7	36.0	38.7	40.9	42.7	44.2	45.5	46.6	47.5	48.3	49.0
75	5.07	12.0	18.6	24.4	29.2	33.1	36.5	39.3	41.5	43.3	44.9	46.1	47.2	48.2	49.0	49.7
76	5.13	12.1	18.9	24.7	29.5	33.6	37.0	39.8	42.1	43.9	45.5	46.8	47.9	48.9	49.7	50.4
77	5.20	12.3	19.1	25.0	29.9	34.0	37.5	40.3	42.6	44.5	46.1	47.5	48.6	49.6	50.4	51.1
78	5.27	12.5	19.4	25.3	30.3	34.5	37.9	40.9	43.2	45.1	46.7	48.1	49.3	50.2	51.1	51.8
79	5.34	12.6	19.6	25.7	30.7	34.9	38.4	41.4	43.8	45.7	47.4	48.8	49.9	50.9	51.8	52.6
80	5.41	12.8	19.9	26.0	31.1	35.3	38.9	41.9	44.3	46.3	48.0	49.4	50.6	51.6	52.5	53.3
81	5.47	12.9	20.1	26.3	31.5	35.8	39.4	42.5	44.9	46.9	48.6	50.1	51.3	52.3	53.2	54.0
82	5.54	13.1	20.4	26.6	31.9	36.2	39.9	43.0	45.5	47.5	49.3	50.7	52.0	53.0	53.9	54.7
83	5.61	13.3	20.6	27.0	32.3	36.7	40.4	43.5	46.0	48.1	49.9	51.4	52.6	53.7	54.6	55.4
84	5.68	13.4	20.9	27.3	32.7	37.1	40.9	44.0	46.6	48.7	50.5	52.0	53.3	54.4	55.3	56.2
85	5.74	13.6	21.1	27.6	33.0	37.6	41.4	44.6	47.2	49.3	51.2	52.7	54.0	55.1	56.1	56.9
86	5.81	13.7	21.4	27.9	33.4	38.0	41.8	45.1	47.7	49.9	51.8	53.3	54.7	55.8	56.8	57.6
87	5.88	13.9	21.6	28.3	33.8	38.4	42.3	45.6	48.3	50.5	52.4	54.0	55.3	56.5	57.5	58.3
88	5.95	14.1	21.9	28.6	34.2	38.9	42.8	46.1	48.9	51.1	53.0	54.6	56.0	57.2	58.2	59.1
89	6.01	14.2	22.1	28.9	34.6	39.3	43.3	46.7	49.4	51.7	53.7	55.3	56.7	57.9	58.9	59.8
90	6.08	14.4	22.4	29.2	35.0	39.8	43.8	47.2	50.0	52.3	54.3	55.9	57.4	58.6	59.6	60.5
91	6.15	14.5	22.6	29.6	35.4	40.2	44.3	47.7	50.6	52.9	54.9	56.6	58.0	59.2	60.3	61.2
92	6.22	14.7	22.9	29.9	35.8	40.7	44.8	48.2	51.1	53.5	55.6	57.3	58.7	59.9	61.0	61.9
93	6.28	14.9	23.1	30.2	36.1	41.1	45.2	48.8	51.7	54.1	56.2	57.9	59.4	60.6	61.7	62.7
94	6.35	15.0	23.4	30.5	36.5	41.5	45.7	49.3	52.3	54.7	56.8	58.6	60.0	61.3	62.4	63.4
95	6.42	15.2	23.6	30.9	36.9	42.0	46.2	49.8	52.8	55.3	57.4	59.2	60.7	62.0	63.1	64.1
96	6.49	15.3	23.9	31.2	37.3	42.4	46.7	50.3	53.4	55.9	58.1	59.9	61.4	62.7	63.8	64.8
97	6.55	15.5	24.1	31.5	37.7	42.9	47.2	50.8	54.0	56.5	58.7	60.5	62.1	63.4	64.5	65.5
98	6.62	15.7	24.4	31.8	38.1	43.3	47.7	51.4	54.5	57.1	59.3	61.2	62.7	64.1	65.3	66.3
99	6.69	15.8	24.6	32.2	38.5	43.7	48.2	51.9	55.1	57.7	59.9	61.8	63.4	64.8	66.0	67.0
100	6.76	16.0	24.9	32.5	38.9	44.2	48.6	52.4	55.6	58.3	60.5	62.4	64.1	65.5	66.7	67.7
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
50	32.1	32.4	32.7	33.0	33.2	33.8	34.6	35.2	35.7	36.1	36.5					36.5
51	32.8	33.2	33.5	33.7	34.0	34.6	35.4	36.0	36.5	36.9	37.3					37.3
52	33.6	33.9	34.2	34.5	34.7	35.4	36.2	36.8	37.3	37.7	38.1					38.2
53	34.3	34.6	34.9	35.2	35.5	36.1	37.0	37.6	38.1	38.5	38.9					39.1
54	35.0	35.4	35.7	36.0	36.2	36.9	37.8	38.4	38.9	39.3	39.7					40.0
55	35.7	36.1	36.4	36.7	37.0	37.7	38.5	39.2	39.7	40.2	40.5					40.9
56	36.4	36.8	37.2	37.5	37.7	38.4	39.3	40.0	40.5	41.0	41.3					41.7
57	37.2	37.6	37.9	38.2	38.5	39.2	40.1	40.8	41.3	41.8	42.2					42.6
58	37.9	38.3	38.6	39.0	39.2	40.0	40.9	41.6	42.1	42.6	43.0					43.5
59	38.6	39.0	39.4	39.7	40.0	40.7	41.7	42.4	42.9	43.4	43.8					44.4
60	39.4	39.8	40.1	40.5	40.8	41.5	42.5	43.2	43.8	44.2	44.6	45.3				45.3
61	40.1	40.5	40.9	41.2	41.5	42.3	43.3	44.0	44.6	45.0	45.5	46.1				46.2
62	40.8	41.2	41.6	42.0	42.3	43.1	44.1	44.8	45.4	45.9	46.3	47.0				47.1
63	41.5	42.0	42.4	42.7	43.0	43.8	44.8	45.6	46.2	46.7	47.1	47.8				48.0
64	42.3	42.7	43.1	43.5	43.8	44.6	45.6	46.4	47.0	47.5	47.9	48.6				48.9
65	43.0	43.4	43.9	44.2	44.6	45.4	46.4	47.2	47.8	48.3	48.8	49.5				49.8
66	43.7	44.2	44.6	45.0	45.3	46.2	47.2	48.0	48.6	49.1	49.6	50.3				50.7
67	44.5	44.9	45.3	45.7	46.1	46.9	48.0	48.8	49.4	50.0	50.4	51.1				51.6
68	45.2	45.7	46.1	46.5	46.8	47.7	48.8	49.6	50.3	50.8	51.2	52.0				52.5
69	45.9	46.4	46.8	47.2	47.6	48.5	49.6	50.4	51.1	51.6	52.1	52.8				53.4
70	46.6	47.1	47.6	48.0	48.4	49.3	50.4	51.2	51.9	52.4	52.9	53.7	54.3			54.3
71	47.4	47.9	48.3	48.7	49.1	50.1	51.2	52.1	52.7	53.3	53.7	54.5	55.1			55.2
72	48.1	48.6	49.1	49.5	49.9	50.8	52.0	52.9	53.5	54.1	54.6	55.3	56.0			56.1
73	48.8	49.4	49.8	50.3	50.6	51.6	52.8	53.7	54.4	54.9	55.4	56.2	56.8			57.0
74	49.6	50.1	50.6	51.0	51.4	52.4	53.6	54.5	55.2	55.8	56.2	57.0	57.7			57.9
75	50.3	50.8	51.3	51.8	52.2	53.2	54.4	55.3	56.0	56.6	57.1	57.9	58.5			58.8
76	51.0	51.6	52.1	52.5	52.9	54.0	55.2	56.1	56.8	57.4	57.9	58.7	59.4			59.7
77	51.8	52.3	52.8	53.3	53.7	54.7	56.0	56.9	57.7	58.2	58.7	59.6	60.2			60.6
78	52.5	53.1	53.6	54.1	54.5	55.5	56.8	57.7	58.5	59.1	59.6	60.4	61.1			61.5
79	53.2	53.8	54.3	54.8	55.2	56.3	57.6	58.6	59.3	59.9	60.4	61.2	61.9			62.4
80	54.0	54.6	55.1	55.6	56.0	57.1	58.4	59.4	60.1	60.7	61.3	62.1	62.8			63.3
81	54.7	55.3	55.8	56.3	56.8	57.9	59.2	60.2	61.0	61.6	62.1	62.9	63.6			64.2
82	55.4	56.0	56.6	57.1	57.5	58.7	60.0	61.0	61.8	62.4	62.9	63.8	64.5			65.2
83	56.2	56.8	57.3	57.9	58.3	59.4	60.8	61.8	62.6	63.2	63.8	64.6	65.3			66.1
84	56.9	57.5	58.1	58.6	59.1	60.2	61.6	62.6	63.4	64.1	64.6	65.5	66.2			67.0
85	57.6	58.3	58.9	59.4	59.8	61.0	62.4	63.5	64.3	64.9	65.5	66.3	67.0			67.9
86	58.4	59.0	59.6	60.1	60.6	61.8	63.2	64.3	65.1	65.7	66.3	67.2	67.9			68.8
87	59.1	59.8	60.4	60.9	61.4	62.6	64.0	65.1	65.9	66.6	67.1	68.0	68.8			69.7
88	59.8	60.5	61.1	61.7	62.1	63.4	64.8	65.9	66.7	67.4	68.0	68.9	69.6			70.6
89	60.6	61.3	61.9	62.4	62.9	64.2	65.7	66.7	67.6	68.3	68.8	69.7	70.5			71.6
90	61.3	62.0	62.6	63.2	63.7	64.9	66.5	67.6	68.4	69.1	69.7	70.6	71.3	72.5		72.5
91	62.0	62.7	63.4	63.9	64.5	65.7	67.3	68.4	69.2	69.9	70.5	71.5	72.2	73.3		73.4
92	62.8	63.5	64.1	64.7	65.2	66.5	68.1	69.2	70.1	70.8	71.4	72.3	73.1	74.2		74.3
93	63.5	64.2	64.9	65.5	66.0	67.3	68.9	70.0	70.9	71.6	72.2	73.2	73.9	75.1		75.2
94	64.2	65.0	65.6	66.2	66.8	68.1	69.7	70.8	71.7	72.5	73.1	74.0	74.8	76.0		76.2
95	65.0	65.7	66.4	67.0	67.5	68.9	70.5	71.7	72.6	73.3	73.9	74.9	75.6	76.8		77.1
96	65.7	66.5	67.1	67.8	68.3	69.7	71.3	72.5	73.4	74.1	74.7	75.7	76.5	77.7		78.0
97	66.4	67.2	67.9	68.5	69.1	70.5	72.1	73.3	74.2	75.0	75.6	76.6	77.4	78.6		78.9
98	67.2	67.9	68.6	69.3	69.8	71.2	72.9	74.1	75.1	75.8	76.4	77.4	78.2	79.4		79.8
99	67.9	68.7	69.4	70.0	70.6	72.0	73.7	75.0	75.9	76.7	77.3	78.3	79.1	80.3		80.8
100	68.6	69.4	70.2	70.8	71.4	72.8	74.6	75.8	76.7	77.5	78.1	79.2	80.0	81.2		81.7
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	6.76	16.0	24.9	32.5	38.9	44.2	48.6	52.4	55.6	58.3	60.5	62.4	64.1	65.5	66.7	67.7
102	6.89	16.3	25.4	33.1	39.6	45.1	49.6	53.5	56.8	59.5	61.8	63.7	65.4	66.8	68.1	69.2
104	7.03	16.6	25.9	33.8	40.4	46.0	50.6	54.5	57.9	60.7	63.0	65.0	66.7	68.2	69.5	70.6
106	7.16	16.9	26.4	34.4	41.2	46.8	51.6	55.6	59.0	61.9	64.3	66.3	68.1	69.6	70.9	72.0
108	7.30	17.3	26.8	35.1	42.0	47.7	52.5	56.6	60.1	63.0	65.5	67.6	69.4	71.0	72.3	73.5
110	7.43	17.6	27.3	35.7	42.8	48.6	53.5	57.7	61.2	64.2	66.8	68.9	70.8	72.3	73.7	74.9
112	7.57	17.9	27.8	36.4	43.5	49.5	54.5	58.7	62.3	65.4	68.0	70.2	72.1	73.7	75.1	76.3
114	7.70	18.2	28.3	37.0	44.3	50.4	55.5	59.8	63.4	66.6	69.2	71.5	73.4	75.1	76.5	77.8
116	7.84	18.5	28.8	37.7	45.1	51.3	56.4	60.8	64.5	67.7	70.5	72.8	74.8	76.5	77.9	79.2
118	7.97	18.9	29.3	38.3	45.9	52.1	57.4	61.9	65.7	68.9	71.7	74.1	76.1	77.8	79.3	80.7
120	8.11	19.2	29.8	39.0	46.6	53.0	58.4	62.9	66.8	70.1	72.9	75.4	77.4	79.2	80.8	82.1
122	8.24	19.5	30.3	39.6	47.4	53.9	59.3	64.0	67.9	71.2	74.2	76.6	78.8	80.6	82.2	83.5
124	8.38	19.8	30.8	40.3	48.2	54.8	60.3	65.0	69.0	72.4	75.4	77.9	80.1	81.9	83.6	85.0
126	8.51	20.1	31.3	40.9	49.0	55.7	61.3	66.1	70.1	73.6	76.6	79.2	81.4	83.3	85.0	86.4
128	8.65	20.5	31.8	41.6	49.8	56.6	62.3	67.1	71.2	74.7	77.8	80.5	82.7	84.7	86.4	87.8
130	8.78	20.8	32.3	42.2	50.5	57.4	63.2	68.1	72.3	75.9	79.0	81.8	84.1	86.0	87.8	89.3
132	8.92	21.1	32.8	42.9	51.3	58.3	64.2	69.2	73.4	77.1	80.2	83.0	85.4	87.4	89.2	90.7
134	9.05	21.4	33.3	43.5	52.1	59.2	65.2	70.2	74.6	78.2	81.4	84.3	86.7	88.8	90.6	92.1
136	9.19	21.7	33.8	44.2	52.9	60.1	66.2	71.3	75.7	79.4	82.7	85.5	88.0	90.1	92.0	93.6
138	9.32	22.1	34.3	44.8	53.6	61.0	67.1	72.3	76.8	80.6	83.9	86.8	89.3	91.5	93.4	95.0
140	9.46	22.4	34.8	45.5	54.4	61.9	68.1	73.4	77.9	81.7	85.1	88.0	90.7	92.8	94.8	96.4
142	9.59	22.7	35.3	46.1	55.2	62.7	69.1	74.4	79.0	82.9	86.3	89.3	92.0	94.2	96.2	97.8
144	9.73	23.0	35.8	46.8	56.0	63.6	70.1	75.5	80.1	84.1	87.5	90.6	93.2	95.6	97.5	99.3
146	9.86	23.3	36.3	47.4	56.7	64.5	71.0	76.5	81.2	85.2	88.7	91.8	94.5	96.9	98.9	100.7
148	10.0	23.7	36.8	48.1	57.5	65.4	72.0	77.6	82.4	86.4	90.0	93.1	95.8	98.3	100.3	102.1
150	10.1	24.0	37.3	48.7	58.3	66.3	73.0	78.6	83.5	87.6	91.2	94.3	97.1	99.6	101.7	103.6
152	10.3	24.3	37.8	49.4	59.1	67.2	73.9	79.7	84.6	88.8	92.4	95.6	98.4	101.0	103.1	105.0
154	10.4	24.6	38.3	50.0	59.9	68.0	74.9	80.7	85.7	89.9	93.6	96.8	99.7	102.3	104.5	106.4
156	10.5	24.9	38.8	50.7	60.6	68.9	75.9	81.8	86.8	91.1	94.8	98.1	101.0	103.6	105.9	107.8
158	10.7	25.3	39.3	51.3	61.4	69.8	76.9	82.8	87.9	92.3	96.0	99.4	102.3	104.9	107.3	109.2
160	10.8	25.6	39.8	52.0	62.2	70.7	77.8	83.9	89.0	93.4	97.3	100.6	103.6	106.3	108.7	110.7
162	10.9	25.9	40.3	52.6	63.0	71.6	78.8	84.9	90.1	94.6	98.5	101.9	104.9	107.6	110.0	112.1
164	11.1	26.2	40.8	53.3	63.7	72.5	79.8	86.0	91.3	95.8	99.7	103.1	106.2	108.9	111.4	113.5
166	11.2	26.5	41.3	53.9	64.5	73.4	80.8	87.0	92.4	96.9	100.9	104.4	107.5	110.3	112.7	114.9
168	11.4	26.9	41.8	54.6	65.3	74.2	81.7	88.1	93.5	98.1	102.1	105.7	108.8	111.6	114.1	116.3
170	11.5	27.2	42.3	55.2	66.1	75.1	82.7	89.1	94.6	99.3	103.3	106.9	110.1	112.9	115.5	117.7
172	11.6	27.5	42.8	55.9	66.9	76.0	83.7	90.2	95.7	100.4	104.5	108.2	111.4	114.2	116.8	119.1
174	11.8	27.8	43.3	56.5	67.6	76.9	84.6	91.2	96.8	101.6	105.8	109.4	112.7	115.6	118.2	120.5
176	11.9	28.1	43.8	57.2	68.4	77.8	85.6	92.3	97.9	102.8	107.0	110.7	114.0	116.9	119.5	121.9
178	12.0	28.5	44.2	57.8	69.2	78.7	86.6	93.3	99.0	103.9	108.2	111.9	115.3	118.2	120.9	123.3
180	12.2	28.8	44.7	58.5	70.0	79.5	87.6	94.4	100.2	105.1	109.4	113.2	116.6	119.6	122.2	124.7
182	12.3	29.1	45.2	59.1	70.7	80.4	88.5	95.4	101.3	106.3	110.6	114.5	117.9	120.9	123.6	126.1
184	12.4	29.4	45.7	59.8	71.5	81.3	89.5	96.5	102.4	107.4	111.8	115.7	119.1	122.2	125.0	127.4
186	12.6	29.7	46.2	60.4	72.3	82.2	90.5	97.5	103.5	108.6	113.1	117.0	120.4	123.5	126.3	128.8
188	12.7	30.1	46.7	61.1	73.1	83.1	91.5	98.6	104.6	109.8	114.3	118.2	121.7	124.9	127.7	130.2
190	12.8	30.4	47.2	61.7	73.9	84.0	92.4	99.6	105.7	110.9	115.5	119.5	123.0	126.2	129.0	131.6
192	13.0	30.7	47.7	62.4	74.6	84.8	93.4	100.6	106.8	112.1	116.7	120.7	124.3	127.5	130.4	133.0
194	13.1	31.0	48.2	63.0	75.4	85.7	94.4	101.7	107.9	113.3	117.9	122.0	125.6	128.9	131.8	134.4
196	13.2	31.3	48.7	63.7	76.2	86.6	95.3	102.7	109.1	114.4	119.1	123.3	126.9	130.2	133.1	135.8
198	13.4	31.6	49.2	64.3	77.0	87.5	96.3	103.8	110.2	115.6	120.3	124.5	128.2	131.5	134.5	137.1
200	13.5	32.0	49.7	65.0	77.7	88.4	97.3	104.8	111.3	116.8	121.6	125.8	129.5	132.8	135.8	138.5
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
100	68.6	69.4	70.2	70.8	71.4	72.8	74.6	75.8	76.7	77.5	78.1	79.2	80.0	81.2		81.7
102	70.1	70.9	71.7	72.3	72.9	74.4	76.2	77.4	78.4	79.2	79.8	80.9	81.7	82.9		83.5
104	71.6	72.4	73.2	73.9	74.5	76.0	77.8	79.1	80.1	80.9	81.5	82.6	83.4	84.7		85.4
106	73.0	73.9	74.7	75.4	76.0	77.6	79.4	80.8	81.8	82.6	83.2	84.3	85.2	86.4		87.2
108	74.5	75.4	76.2	76.9	77.6	79.1	81.1	82.4	83.4	84.3	84.9	86.0	86.9	88.2		89.1
110	76.0	76.9	77.7	78.4	79.1	80.7	82.7	84.1	85.1	86.0	86.7	87.8	88.6	89.9	90.9	90.9
112	77.4	78.4	79.2	80.0	80.6	82.3	84.3	85.7	86.8	87.7	88.4	89.5	90.4	91.7	92.7	92.8
114	78.9	79.9	80.7	81.5	82.2	83.9	85.9	87.4	88.5	89.3	90.1	91.2	92.1	93.5	94.5	94.7
116	80.4	81.3	82.2	83.0	83.7	85.5	87.6	89.0	90.2	91.0	91.8	92.9	93.9	95.2	96.3	96.5
118	81.8	82.8	83.7	84.5	85.3	87.1	89.2	90.7	91.8	92.7	93.5	94.7	95.6	97.0	98.0	98.4
120	83.3	84.3	85.2	86.1	86.8	88.7	90.8	92.4	93.5	94.4	95.2	96.4	97.3	98.7	99.8	100.3
122	84.7	85.8	86.8	87.6	88.4	90.2	92.5	94.0	95.2	96.1	96.9	98.1	99.1	100.5	101.6	102.1
124	86.2	87.3	88.3	89.1	89.9	91.8	94.1	95.7	96.9	97.9	98.6	99.9	100.8	102.3	103.4	104.0
126	87.7	88.8	89.8	90.7	91.5	93.4	95.7	97.4	98.6	99.6	100.4	101.6	102.6	104.0	105.1	105.9
128	89.1	90.3	91.3	92.2	93.0	95.0	97.4	99.0	100.3	101.3	102.1	103.3	104.3	105.8	106.9	107.7
130	90.6	91.8	92.8	93.7	94.5	96.6	99.0	100.7	102.0	103.0	103.8	105.1	106.1	107.6	108.7	109.6
132	92.1	93.2	94.3	95.2	96.1	98.2	100.6	102.4	103.7	104.7	105.5	106.8	107.8	109.4	110.5	111.5
134	93.5	94.7	95.8	96.8	97.6	99.8	102.3	104.0	105.3	106.4	107.2	108.6	109.6	111.1	112.3	113.4
136	95.0	96.2	97.3	98.3	99.2	101.3	103.9	105.7	107.0	108.1	109.0	110.3	111.3	112.9	114.1	115.2
138	96.4	97.7	98.8	99.8	100.7	102.9	105.6	107.4	108.7	109.8	110.7	112.0	113.1	114.7	115.8	117.1
140	97.9	99.2	100.3	101.3	102.3	104.5	107.2	109.0	110.4	111.5	112.4	113.8	114.9	116.5	117.6	119.0
142	99.3	100.7	101.8	102.9	103.8	106.1	108.8	110.7	112.1	113.2	114.1	115.5	116.6	118.2	119.4	120.9
144	100.8	102.1	103.3	104.4	105.4	107.7	110.5	112.4	113.8	114.9	115.9	117.3	118.4	120.0	121.2	122.8
146	102.3	103.6	104.8	105.9	106.9	109.3	112.1	114.1	115.5	116.7	117.6	119.0	120.1	121.8	123.0	124.6
148	103.7	105.1	106.3	107.4	108.4	110.9	113.7	115.7	117.2	118.4	119.3	120.8	121.9	123.6	124.8	126.5
150	105.2	106.6	107.8	109.0	110.0	112.5	115.4	117.4	118.9	120.1	121.0	122.5	123.7	125.3	126.6	128.4
152	106.6	108.1	109.4	110.5	111.5	114.1	117.0	119.1	120.6	121.8	122.8	124.3	125.4	127.1	128.4	130.3
154	108.1	109.5	110.9	112.0	113.1	115.6	118.7	120.8	122.3	123.5	124.5	126.0	127.2	128.9	130.2	132.2
156	109.5	111.0	112.4	113.5	114.6	117.2	120.3	122.4	124.0	125.2	126.2	127.8	129.0	130.7	132.0	134.1
158	111.0	112.5	113.9	115.1	116.2	118.8	122.0	124.1	125.7	127.0	128.0	129.5	130.7	132.5	133.8	136.0
160	112.4	114.0	115.4	116.6	117.7	120.4	123.6	125.8	127.4	128.7	129.7	131.3	132.5	134.3	135.6	137.9
162	113.9	115.5	116.9	118.1	119.2	122.0	125.2	127.5	129.1	130.4	131.4	133.0	134.3	136.1	137.4	139.8
164	115.3	116.9	118.4	119.6	120.8	123.6	126.9	129.2	130.8	132.1	133.2	134.8	136.0	137.8	139.2	141.7
166	116.8	118.4	119.9	121.2	122.3	125.2	128.5	130.8	132.5	133.8	134.9	136.6	137.8	139.6	141.0	143.5
168	118.2	119.9	121.4	122.7	123.9	126.8	130.2	132.5	134.2	135.6	136.6	138.3	139.6	141.4	142.8	145.4
170	119.7	121.4	122.9	124.2	125.4	128.4	131.8	134.2	135.9	137.3	138.4	140.1	141.3	143.2	144.6	147.3
172	121.1	122.8	124.4	125.7	126.9	129.9	133.5	135.9	137.6	139.0	140.1	141.8	143.1	145.0	146.4	149.2
174	122.6	124.3	125.9	127.2	128.5	131.5	135.1	137.6	139.3	140.7	141.9	143.6	144.9	146.8	148.2	151.1
176	124.0	125.8	127.3	128.8	130.0	133.1	136.7	139.2	141.1	142.5	143.6	145.3	146.7	148.6	150.0	153.0
178	125.4	127.2	128.8	130.3	131.6	134.7	138.4	140.9	142.8	144.2	145.3	147.1	148.4	150.4	151.8	154.9
180	126.9	128.7	130.3	131.8	133.1	136.3	140.0	142.6	144.5	145.9	147.1	148.9	150.2	152.2	153.6	156.8
182	128.3	130.2	131.8	133.3	134.6	137.9	141.7	144.3	146.2	147.6	148.8	150.6	152.0	154.0	155.4	158.7
184	129.7	131.6	133.3	134.8	136.2	139.5	143.3	146.0	147.9	149.4	150.6	152.4	153.8	155.8	157.2	160.6
186	131.1	133.1	134.8	136.3	137.7	141.1	145.0	147.6	149.6	151.1	152.3	154.2	155.5	157.6	159.0	162.5
188	132.5	134.6	136.3	137.9	139.2	142.6	146.6	149.3	151.3	152.8	154.1	155.9	157.3	159.4	160.8	164.4
190	133.9	136.0	137.8	139.4	140.8	144.2	148.3	151.0	153.0	154.6	155.8	157.7	159.1	161.2	162.6	166.4
192	135.3	137.5	139.3	140.9	142.3	145.8	149.9	152.7	154.7	156.3	157.5	159.5	160.9	163.0	164.5	168.3
194	136.7	138.9	140.8	142.4	143.8	147.4	151.5	154.4	156.4	158.0	159.3	161.2	162.7	164.8	166.3	170.2
196	138.2	140.3	142.3	143.9	145.4	149.0	153.2	156.1	158.1	159.7	161.0	163.0	164.4	166.6	168.1	172.1
198	139.6	141.8	143.8	145.4	146.9	150.6	154.8	157.7	159.9	161.5	162.8	164.8	166.2	168.4	169.9	174.0
200	141.0	143.2	145.3	146.9	148.4	152.2	156.5	159.4	161.6	163.2	164.5	166.5	168.0	170.2	171.7	175.9
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	13.5	32.0	49.7	65.0	77.7	88.4	97.3	104.8	111.3	116.8	121.6	125.8	129.5	132.8	135.8	138.5
202	13.6	32.3	50.2	65.6	78.5	89.3	98.3	105.9	112.4	117.9	122.8	127.0	130.8	134.2	137.2	139.9
204	13.8	32.6	50.7	66.3	79.3	90.1	99.2	106.9	113.5	119.1	124.0	128.3	132.1	135.5	138.5	141.3
206	13.9	32.9	51.2	66.9	80.1	91.0	100.2	108.0	114.6	120.3	125.2	129.6	133.4	136.8	139.9	142.7
208	14.1	33.2	51.7	67.6	80.8	91.9	101.2	109.0	115.7	121.4	126.4	130.8	134.7	138.2	141.3	144.1
210	14.2	33.6	52.2	68.2	81.6	92.8	102.2	110.1	116.9	122.6	127.6	132.1	136.0	139.5	142.6	145.5
212	14.3	33.9	52.7	68.9	82.4	93.7	103.1	111.1	118.0	123.8	128.9	133.3	137.3	140.8	144.0	146.8
214	14.5	34.2	53.2	69.5	83.2	94.6	104.1	112.2	119.1	125.0	130.1	134.6	138.6	142.1	145.3	148.2
216	14.6	34.5	53.7	70.2	84.0	95.4	105.1	113.2	120.2	126.1	131.3	135.8	139.9	143.5	146.7	149.6
218	14.7	34.8	54.2	70.8	84.7	96.3	106.1	114.3	121.3	127.3	132.5	137.1	141.2	144.8	148.1	151.0
220	14.9	35.2	54.7	71.5	85.5	97.2	107.0	115.3	122.4	128.5	133.7	138.4	142.5	146.1	149.4	152.4
222	15.0	35.5	55.2	72.1	86.3	98.1	108.0	116.4	123.5	129.6	134.9	139.6	143.8	147.5	150.8	153.8
224	15.1	35.8	55.7	72.8	87.1	99.0	109.0	117.4	124.6	130.8	136.2	140.9	145.1	148.8	152.1	155.2
226	15.3	36.1	56.2	73.4	87.8	99.9	109.9	118.5	125.8	132.0	137.4	142.1	146.3	150.1	153.5	156.5
228	15.4	36.4	56.7	74.1	88.6	100.7	110.9	119.5	126.9	133.1	138.6	143.4	147.6	151.4	154.8	157.9
230	15.5	36.8	57.2	74.7	89.4	101.6	111.9	120.6	128.0	134.3	139.8	144.6	148.9	152.8	156.2	159.3
232	15.7	37.1	57.7	75.4	90.2	102.5	112.9	121.6	129.1	135.5	141.0	145.9	150.2	154.1	157.6	160.7
234	15.8	37.4	58.2	76.0	91.0	103.4	113.8	122.7	130.2	136.6	142.2	147.2	151.5	155.4	158.9	162.1
236	15.9	37.7	58.7	76.7	91.7	104.3	114.8	123.7	131.3	137.8	143.4	148.4	152.8	156.8	160.3	163.5
238	16.1	38.0	59.2	77.3	92.5	105.2	115.8	124.8	132.4	139.0	144.7	149.7	154.1	158.1	161.6	164.8
240	16.2	38.4	59.7	78.0	93.3	106.0	116.8	125.8	133.5	140.1	145.9	150.9	155.4	159.4	163.0	166.2
242	16.4	38.7	60.2	78.6	94.1	106.9	117.7	126.9	134.7	141.3	147.1	152.2	156.7	160.7	164.4	167.6
244	16.5	39.0	60.7	79.3	94.8	107.8	118.7	127.9	135.8	142.5	148.3	153.4	158.0	162.1	165.7	169.0
246	16.6	39.3	61.2	79.9	95.6	108.7	119.7	129.0	136.9	143.6	149.5	154.7	159.3	163.4	167.1	170.4
248	16.8	39.6	61.7	80.6	96.4	109.6	120.6	130.0	138.0	144.8	150.7	156.0	160.6	164.7	168.4	171.8
250	16.9	40.0	62.1	81.2	97.2	110.5	121.6	131.1	139.1	146.0	152.0	157.2	161.9	166.1	169.8	173.2
	.068	*.160*	*.250*	*.326*	*.388*	*.442*	*.486*	*.524*	*.556*	*.584*	*.606*	*.630*	*.648*	*.664*	*.678*	*.692*
300	20.3	48.0	74.6	97.5	116.6	132.6	145.9	157.3	166.9	175.2	182.3	188.7	194.3	199.3	203.7	207.8
	.066	*.158*	*.248*	*.324*	*.388*	*.442*	*.488*	*.524*	*.558*	*.584*	*.608*	*.628*	*.646*	*.664*	*.680*	*.692*
350	23.6	55.9	87.0	113.7	136.0	154.7	170.3	183.5	194.8	204.4	212.7	220.1	226.6	232.5	237.7	242.4
	.068	*.160*	*.248*	*.326*	*.390*	*.440*	*.486*	*.524*	*.556*	*.584*	*.608*	*.630*	*.648*	*.664*	*.680*	*.694*
400	27.0	63.9	99.4	130.0	155.5	176.7	194.6	209.7	222.6	233.6	243.1	251.6	259.0	265.7	271.7	277.1
	.068	*.160*	*.250*	*.324*	*.388*	*.442*	*.486*	*.524*	*.556*	*.582*	*.608*	*.628*	*.648*	*.664*	*.678*	*.692*
450	30.4	71.9	111.9	146.2	174.9	198.8	218.9	235.9	250.4	262.7	273.5	283.0	291.4	298.9	305.6	311.7
	.068	*.160*	*.248*	*.326*	*.388*	*.442*	*.486*	*.524*	*.556*	*.584*	*.608*	*.628*	*.648*	*.664*	*.680*	*.692*
500	33.8	79.9	124.3	162.5	194.3	220.9	243.2	262.1	278.2	291.9	303.9	314.4	323.8	332.1	339.6	346.3
	.067	*.160*	*.249*	*.324*	*.389*	*.442*	*.487*	*.524*	*.557*	*.584*	*.608*	*.629*	*.647*	*.664*	*.679*	*.693*
600	40.5	95.9	149.2	194.9	233.2	265.1	291.9	314.5	333.9	350.3	364.7	377.3	388.5	398.5	407.5	415.6
	.068	*.160*	*.248*	*.325*	*.389*	*.442*	*.486*	*.524*	*.556*	*.584*	*.608*	*.629*	*.648*	*.664*	*.679*	*.693*
700	47.3	111.9	174.0	227.4	272.1	309.3	340.5	366.9	389.5	408.7	425.5	440.2	453.3	464.9	475.4	484.9
	.068	*.160*	*.249*	*.325*	*.389*	*.442*	*.487*	*.525*	*.556*	*.584*	*.608*	*.629*	*.647*	*.665*	*.679*	*.692*
800	54.1	127.9	198.9	259.9	311.0	353.5	389.2	419.4	445.1	467.1	486.3	503.1	518.0	531.4	543.3	554.1
	.067	*.160*	*.248*	*.325*	*.388*	*.442*	*.486*	*.524*	*.557*	*.584*	*.607*	*.629*	*.648*	*.664*	*.679*	*.693*
900	60.8	143.9	223.7	292.4	349.8	397.7	437.8	471.8	500.8	525.5	547.0	566.0	582.8	597.8	611.2	623.4
	.068	*.159*	*.249*	*.325*	*.389*	*.442*	*.487*	*.524*	*.556*	*.584*	*.608*	*.629*	*.648*	*.664*	*.680*	*.692*
1000	67.6	159.8	248.6	324.9	388.7	441.9	486.5	524.2	556.4	583.9	607.8	628.9	647.6	664.2	679.2	692.6
	.067	*.160*	*.249*	*.325*	*.389*	*.442*	*.486*	*.524*	*.557*	*.584*	*.608*	*.629*	*.647*	*.664*	*.679*	*.693*
1100	74.3	175.8	273.5	357.4	427.6	486.1	535.1	576.6	612.1	642.3	668.6	691.8	712.3	730.6	747.1	761.9
	.0676	*.1598*	*.2486*	*.3249*	*.3887*	*.4419*	*.4865*	*.5242*	*.5564*	*.5839*	*.6078*	*.6289*	*.6476*	*.6642*	*.6792*	*.6926*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
200	141.0	143.2	145.3	146.9	148.4	152.2	156.5	159.4	161.6	163.2	164.5	166.5	168.0	170.2	171.7	175.9
202	142.4	144.6	146.7	148.4	150.0	153.7	158.1	161.1	163.3	164.9	166.3	168.3	169.8	172.0	173.5	177.8
204	143.8	146.1	148.2	150.0	151.5	155.3	159.8	162.8	165.0	166.7	168.0	170.1	171.6	173.8	175.3	179.7
206	145.2	147.5	149.6	151.5	153.0	156.9	161.4	164.5	166.7	168.4	169.8	171.8	173.4	175.6	177.2	181.6
208	146.6	148.9	151.1	153.0	154.6	158.5	163.1	166.2	168.4	170.1	171.5	173.6	175.1	177.4	179.0	183.5
210	148.0	150.4	152.5	154.5	156.1	160.1	164.7	167.8	170.1	171.9	173.3	175.4	176.9	179.2	180.8	185.4
212	149.4	151.8	154.0	156.0	157.6	161.7	166.4	169.5	171.8	173.6	175.0	177.1	178.7	181.0	182.6	187.4
214	150.8	153.2	155.4	157.4	159.2	163.2	168.0	171.2	173.6	175.3	176.8	178.9	180.5	182.8	184.4	189.3
216	152.3	154.7	156.9	158.9	160.7	164.8	169.6	172.9	175.3	177.1	178.5	180.7	182.3	184.6	186.2	191.2
218	153.7	156.1	158.3	160.4	162.2	166.4	171.3	174.6	177.0	178.8	180.3	182.5	184.1	186.4	188.1	193.1
220	155.1	157.5	159.8	161.8	163.7	168.0	172.9	176.3	178.7	180.5	182.0	184.2	185.9	188.2	189.9	195.0
222	156.5	159.0	161.2	163.3	165.2	169.6	174.6	178.0	180.4	182.3	183.8	186.0	187.7	190.0	191.7	196.9
224	157.9	160.4	162.7	164.8	166.7	171.2	176.2	179.6	182.1	184.0	185.5	187.8	189.4	191.8	193.5	198.8
226	159.3	161.8	164.1	166.3	168.2	172.7	177.9	181.3	183.8	185.8	187.3	189.6	191.2	193.6	195.3	200.8
228	160.7	163.3	165.6	167.7	169.7	174.3	179.5	183.0	185.6	187.5	189.0	191.3	193.0	195.4	197.2	202.7
230	162.1	164.7	167.0	169.2	171.2	175.9	181.1	184.7	187.3	189.2	190.8	193.1	194.8	197.3	199.0	204.6
232	163.5	166.1	168.5	170.7	172.7	177.5	182.8	186.4	189.0	191.0	192.5	194.9	196.6	199.1	200.8	206.5
234	164.9	167.6	169.9	172.1	174.2	179.1	184.4	188.1	190.7	192.7	194.3	196.7	198.4	200.9	202.6	208.4
236	166.4	169.0	171.4	173.6	175.7	180.6	186.1	189.8	192.4	194.4	196.0	198.4	200.2	202.7	204.5	210.4
238	167.8	170.4	172.9	175.1	177.1	182.2	187.7	191.5	194.1	196.2	197.8	200.2	202.0	204.5	206.3	212.3
240	169.2	171.9	174.3	176.6	178.6	183.8	189.4	193.1	195.9	197.9	199.5	202.0	203.8	206.3	208.1	214.2
242	170.6	173.3	175.8	178.0	180.1	185.4	191.0	194.8	197.6	199.7	201.3	203.8	205.6	208.1	209.9	216.1
244	172.0	174.7	177.2	179.5	181.6	186.9	192.7	196.5	199.3	201.4	203.1	205.5	207.4	209.9	211.8	218.0
246	173.4	176.1	178.7	181.0	183.1	188.5	194.3	198.2	201.0	203.1	204.8	207.3	209.2	211.8	213.6	220.0
248	174.8	177.6	180.1	182.4	184.6	190.1	195.9	199.9	202.7	204.9	206.6	209.1	211.0	213.6	215.4	221.9
250	176.2	179.0	181.6	183.9	186.1	191.7	197.6	201.6	204.4	206.6	208.3	210.9	212.8	215.4	217.2	223.8
	.706	*.716*	*.726*	*.736*	*.744*	*.766*	*.820*	*.842*	*.860*	*.870*	*.880*	*.892*	*.900*	*.910*	*.918*	*.964*
300	211.5	214.8	217.9	220.7	223.3	230.0	238.6	243.7	247.4	250.1	252.3	255.5	257.8	260.9	263.1	272.0
	.704	*.716*	*.726*	*.736*	*.744*	*.766*	*.794*	*.842*	*.858*	*.872*	*.882*	*.894*	*.902*	*.914*	*.920*	*.970*
350	246.7	250.6	254.2	257.5	260.5	268.3	278.3	285.8	290.3	293.7	296.4	300.2	302.9	306.6	309.1	320.5
	.706	*.716*	*.726*	*.736*	*.744*	*.768*	*.796*	*.816*	*.860*	*.874*	*.882*	*.898*	*.906*	*.918*	*.924*	*.972*
400	282.0	286.4	290.5	294.3	297.7	306.7	318.1	326.6	333.3	337.4	340.5	345.1	348.2	352.5	355.3	369.1
	.704	*.716*	*.726*	*.734*	*.744*	*.766*	*.794*	*.816*	*.832*	*.870*	*.882*	*.898*	*.910*	*.920*	*.928*	*.976*
450	317.2	322.2	326.8	331.0	334.9	345.0	357.8	367.4	374.9	380.9	384.6	390.0	393.7	398.5	401.7	417.9
	.704	*.716*	*.726*	*.736*	*.746*	*.766*	*.796*	*.818*	*.834*	*.848*	*.884*	*.898*	*.908*	*.922*	*.930*	*.978*
500	352.4	358.0	363.1	367.8	372.2	383.3	397.6	408.3	416.6	423.3	428.8	434.9	439.1	444.6	448.2	466.8
	.705	*.716*	*.727*	*.736*	*.744*	*.767*	*.795*	*.816*	*.833*	*.846*	*.857*	*.899*	*.911*	*.924*	*.932*	*.981*
600	422.9	429.6	435.8	441.4	446.6	460.0	477.1	489.9	499.9	507.9	514.5	524.8	530.2	537.0	541.4	564.9
	.705	*.716*	*.726*	*.736*	*.744*	*.767*	*.795*	*.817*	*.833*	*.847*	*.858*	*.875*	*.911*	*.926*	*.934*	*.984*
700	493.4	501.2	508.4	515.0	521.0	536.7	556.6	571.6	583.2	592.6	600.3	612.3	621.3	629.6	634.8	663.3
	.705	*.716*	*.726*	*.735*	*.744*	*.766*	*.796*	*.816*	*.833*	*.846*	*.857*	*.874*	*.887*	*.927*	*.936*	*.985*
800	563.9	572.8	581.0	588.5	595.4	613.3	636.2	653.2	666.5	677.2	686.0	699.7	710.0	722.3	728.4	761.8
	.705	*.716*	*.726*	*.736*	*.745*	*.767*	*.795*	*.817*	*.833*	*.847*	*.858*	*.875*	*.888*	*.928*	*.937*	*.988*
900	634.4	644.4	653.6	662.1	669.9	690.0	715.7	734.9	749.8	761.9	771.8	787.2	798.8	815.1	822.1	860.6
	.705	*.716*	*.727*	*.735*	*.744*	*.767*	*.795*	*.816*	*.833*	*.846*	*.857*	*.875*	*.887*	*.905*	*.938*	*.989*
1000	704.9	716.0	726.3	735.6	744.3	766.7	795.2	816.5	833.1	846.5	857.5	874.7	887.5	905.6	915.9	959.5
	.705	*.717*	*.726*	*.736*	*.744*	*.766*	*.795*	*.817*	*.834*	*.847*	*.858*	*.874*	*.888*	*.906*	*.941*	*.995*
1100	775.4	787.7	798.9	809.2	818.7	843.3	874.7	898.2	916.5	931.2	943.3	962.1	976.3	996.2	1010.	1059.
	.7049	*.7160*	*.7263*	*.7356*	*.7443*	*.7667*	*.7952*	*.8165*	*.8331*	*.8465*	*.8575*	*.8747*	*.8875*	*.9056*	*.9180*	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.126															
3	.208	.397														
4	.292	.576	.777													
5	.365	.762	1.04	1.24												
6	.438	.951	1.31	1.57	1.75											
7	.511	1.14	1.59	1.91	2.14	2.31										
8	.585	1.33	1.88	2.26	2.54	2.75	2.91									
9	.658	1.52	2.16	2.62	2.95	3.19	3.38	3.54								
10	.731	1.69	2.44	2.98	3.36	3.64	3.86	4.04	4.19							
11	.804	1.85	2.73	3.34	3.77	4.10	4.35	4.55	4.72	4.86						
12	.877	2.02	3.01	3.70	4.19	4.56	4.85	5.07	5.26	5.42	5.55					
13	.950	2.19	3.30	4.06	4.62	5.03	5.35	5.60	5.81	5.98	6.13	6.26				
14	1.02	2.36	3.58	4.43	5.04	5.50	5.85	6.13	6.36	6.55	6.71	6.85	6.98			
15	1.10	2.53	3.86	4.79	5.47	5.97	6.36	6.67	6.91	7.12	7.30	7.46	7.59	7.71		
16	1.17	2.70	4.14	5.15	5.90	6.45	6.87	7.21	7.48	7.70	7.90	8.06	8.21	8.34	8.46	
17	1.24	2.87	4.40	5.52	6.32	6.93	7.39	7.75	8.04	8.29	8.49	8.67	8.83	8.97	9.10	9.21
18	1.32	3.03	4.66	5.88	6.75	7.40	7.90	8.29	8.61	8.87	9.10	9.29	9.46	9.61	9.74	9.86
19	1.39	3.20	4.92	6.24	7.18	7.88	8.42	8.84	9.18	9.47	9.71	9.91	10.1	10.2	10.4	10.5
20	1.46	3.37	5.18	6.60	7.61	8.36	8.94	9.39	9.76	10.1	10.3	10.5	10.7	10.9	11.0	11.2
21	1.53	3.54	5.44	6.96	8.04	8.84	9.46	9.95	10.3	10.7	10.9	11.2	11.4	11.5	11.7	11.8
22	1.61	3.71	5.69	7.32	8.46	9.33	9.99	10.5	10.9	11.3	11.5	11.8	12.0	12.2	12.4	12.5
23	1.68	3.88	5.95	7.68	8.89	9.81	10.5	11.1	11.5	11.9	12.2	12.4	12.7	12.9	13.0	13.2
24	1.75	4.05	6.21	8.04	9.32	10.3	11.0	11.6	12.1	12.5	12.8	13.1	13.3	13.5	13.7	13.9
25	1.83	4.21	6.47	8.39	9.74	10.8	11.6	12.2	12.7	13.1	13.4	13.7	14.0	14.2	14.4	14.5
26	1.90	4.38	6.73	8.73	10.2	11.3	12.1	12.7	13.3	13.7	14.0	14.3	14.6	14.8	15.0	15.2
27	1.97	4.55	6.99	9.06	10.6	11.7	12.6	13.3	13.8	14.3	14.7	15.0	15.3	15.5	15.7	15.9
28	2.05	4.72	7.25	9.40	11.0	12.2	13.1	13.9	14.4	14.9	15.3	15.6	15.9	16.2	16.4	16.6
29	2.12	4.89	7.51	9.73	11.4	12.7	13.7	14.4	15.0	15.5	15.9	16.3	16.6	16.8	17.1	17.3
30	2.19	5.06	7.76	10.1	11.9	13.2	14.2	15.0	15.6	16.1	16.6	16.9	17.2	17.5	17.8	18.0
31	2.27	5.23	8.02	10.4	12.3	13.7	14.7	15.5	16.2	16.8	17.2	17.6	17.9	18.2	18.5	18.7
32	2.34	5.39	8.28	10.7	12.7	14.1	15.2	16.1	16.8	17.4	17.8	18.2	18.6	18.9	19.1	19.4
33	2.41	5.56	8.54	11.1	13.1	14.6	15.8	16.7	17.4	18.0	18.5	18.9	19.2	19.6	19.8	20.1
34	2.48	5.73	8.80	11.4	13.5	15.1	16.3	17.2	18.0	18.6	19.1	19.5	19.9	20.2	20.5	20.8
35	2.56	5.90	9.06	11.7	14.0	15.6	16.8	17.8	18.6	19.2	19.8	20.2	20.6	20.9	21.2	21.5
36	2.63	6.07	9.32	12.1	14.4	16.0	17.3	18.4	19.2	19.8	20.4	20.9	21.3	21.6	21.9	22.2
37	2.70	6.24	9.58	12.4	14.8	16.5	17.9	18.9	19.8	20.5	21.0	21.5	21.9	22.3	22.6	22.9
38	2.78	6.41	9.83	12.8	15.2	17.0	18.4	19.5	20.4	21.1	21.7	22.2	22.6	23.0	23.3	23.6
39	2.85	6.57	10.1	13.1	15.6	17.5	18.9	20.0	21.0	21.7	22.3	22.8	23.3	23.7	24.0	24.3
40	2.92	6.74	10.4	13.4	16.0	17.9	19.4	20.6	21.6	22.3	23.0	23.5	24.0	24.3	24.7	25.0
41	3.00	6.91	10.6	13.8	16.4	18.4	19.9	21.2	22.1	22.9	23.6	24.2	24.6	25.0	25.4	25.7
42	3.07	7.08	10.9	14.1	16.8	18.9	20.5	21.7	22.7	23.6	24.2	24.8	25.3	25.7	26.1	26.4
43	3.14	7.25	11.1	14.4	17.2	19.4	21.0	22.3	23.3	24.2	24.9	25.5	26.0	26.4	26.8	27.1
44	3.22	7.42	11.4	14.8	17.6	19.8	21.5	22.9	23.9	24.8	25.5	26.1	26.7	27.1	27.5	27.8
45	3.29	7.58	11.6	15.1	18.0	20.3	22.0	23.4	24.5	25.4	26.2	26.8	27.3	27.8	28.2	28.6
46	3.36	7.75	11.9	15.4	18.4	20.8	22.6	24.0	25.1	26.0	26.8	27.5	28.0	28.5	28.9	29.3
47	3.43	7.92	12.2	15.8	18.8	21.2	23.1	24.5	25.7	26.7	27.5	28.1	28.7	29.2	29.6	30.0
48	3.51	8.09	12.4	16.1	19.2	21.7	23.6	25.1	26.3	27.3	28.1	28.8	29.4	29.9	30.3	30.7
49	3.58	8.26	12.7	16.4	19.6	22.2	24.1	25.6	26.9	27.9	28.8	29.5	30.1	30.6	31.0	31.4
50	3.65	8.43	12.9	16.8	20.0	22.6	24.6	26.2	27.5	28.5	29.4	30.1	30.7	31.3	31.7	32.1
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
1																.0070	1
2																.126	2
3																.397	3
4																.777	4
5																1.24	5
6																1.75	6
7																2.31	7
8																2.91	8
9																3.54	9
10																4.19	10
11																4.86	11
12																5.55	12
13																6.26	13
14																6.98	14
15																7.71	15
16																8.46	16
17																9.21	17
18	9.98															9.98	18
19	10.6	10.7														10.7	19
20	11.3	11.4	11.5													11.5	20
21	12.0	12.1	12.2	12.3												12.3	21
22	12.7	12.8	12.9	13.0	13.1											13.1	22
23	13.3	13.5	13.6	13.7	13.8											13.9	23
24	14.0	14.2	14.3	14.4	14.5											14.7	24
25	14.7	14.8	15.0	15.1	15.2	15.5										15.5	25
26	15.4	15.5	15.7	15.8	15.9	16.2										16.3	26
27	16.1	16.2	16.4	16.5	16.6	17.0										17.2	27
28	16.8	16.9	17.1	17.2	17.4	17.7										18.0	28
29	17.5	17.6	17.8	17.9	18.1	18.4										18.8	29
30	18.2	18.4	18.5	18.7	18.8	19.2	19.6									19.6	30
31	18.9	19.1	19.2	19.4	19.5	19.9	20.4									20.5	31
32	19.6	19.8	19.9	20.1	20.3	20.6	21.1									21.3	32
33	20.3	20.5	20.7	20.8	21.0	21.4	21.9									22.2	33
34	21.0	21.2	21.4	21.6	21.7	22.1	22.7									23.0	34
35	21.7	21.9	22.1	22.3	22.4	22.9	23.4	23.8								23.8	35
36	22.4	22.6	22.8	23.0	23.2	23.6	24.2	24.6								24.7	36
37	23.1	23.3	23.6	23.7	23.9	24.4	24.9	25.4								25.6	37
38	23.8	24.1	24.3	24.5	24.7	25.1	25.7	26.2								26.4	38
39	24.6	24.8	25.0	25.2	25.4	25.9	26.5	27.0								27.3	39
40	25.3	25.5	25.7	25.9	26.1	26.6	27.2	27.7	28.1							28.1	40
41	26.0	26.2	26.5	26.7	26.9	27.4	28.0	28.5	28.9							29.0	41
42	26.7	27.0	27.2	27.4	27.6	28.1	28.8	29.3	29.7							29.9	42
43	27.4	27.7	27.9	28.2	28.4	28.9	29.6	30.1	30.5							30.7	43
44	28.1	28.4	28.7	28.9	29.1	29.6	30.3	30.9	31.3							31.6	44
45	28.9	29.2	29.4	29.6	29.9	30.4	31.1	31.7	32.1	32.5						32.5	45
46	29.6	29.9	30.1	30.4	30.6	31.2	31.9	32.5	32.9	33.3						33.4	46
47	30.3	30.6	30.9	31.1	31.4	31.9	32.7	33.2	33.7	34.1						34.2	47
48	31.0	31.4	31.6	31.9	32.1	32.7	33.5	34.0	34.5	34.9						35.1	48
49	31.8	32.1	32.4	32.6	32.9	33.5	34.2	34.8	35.3	35.7						36.0	49
50	32.5	32.8	33.1	33.4	33.6	34.2	35.0	35.6	36.1	36.5	36.9					36.9	50
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	3.65	8.43	12.9	16.8	20.0	22.6	24.6	26.2	27.5	28.5	29.4	30.1	30.7	31.3	31.7	32.1
51	3.73	8.60	13.2	17.1	20.4	23.1	25.1	26.8	28.1	29.2	30.0	30.8	31.4	32.0	32.4	32.9
52	3.80	8.76	13.5	17.5	20.8	23.5	25.7	27.3	28.7	29.8	30.7	31.5	32.1	32.7	33.1	33.6
53	3.87	8.93	13.7	17.8	21.2	24.0	26.2	27.9	29.3	30.4	31.3	32.1	32.8	33.4	33.9	34.3
54	3.95	9.10	14.0	18.1	21.6	24.4	26.7	28.4	29.9	31.0	32.0	32.8	33.5	34.1	34.6	35.0
55	4.02	9.27	14.2	18.5	22.0	24.9	27.2	29.0	30.4	31.6	32.6	33.5	34.2	34.8	35.3	35.7
56	4.09	9.44	14.5	18.8	22.4	25.3	27.7	29.5	31.0	32.3	33.3	34.1	34.8	35.5	36.0	36.5
57	4.17	9.61	14.8	19.1	22.8	25.8	28.2	30.1	31.6	32.9	33.9	34.8	35.5	36.2	36.7	37.2
58	4.24	9.78	15.0	19.5	23.2	26.2	28.7	30.7	32.2	33.5	34.6	35.4	36.2	36.9	37.4	37.9
59	4.31	9.94	15.3	19.8	23.6	26.7	29.2	31.2	32.8	34.1	35.2	36.1	36.9	37.5	38.1	38.6
60	4.38	10.1	15.5	20.1	24.0	27.1	29.8	31.8	33.4	34.7	35.9	36.8	37.6	38.2	38.8	39.3
61	4.46	10.3	15.8	20.5	24.4	27.6	30.3	32.3	34.0	35.4	36.5	37.4	38.3	38.9	39.5	40.1
62	4.53	10.5	16.0	20.8	24.8	28.1	30.8	32.9	34.6	36.0	37.1	38.1	38.9	39.6	40.3	40.8
63	4.60	10.6	16.3	21.1	25.2	28.5	31.3	33.4	35.2	36.6	37.8	38.8	39.6	40.3	41.0	41.5
64	4.68	10.8	16.6	21.5	25.6	29.0	31.8	34.0	35.8	37.2	38.4	39.4	40.3	41.0	41.7	42.2
65	4.75	11.0	16.8	21.8	26.0	29.4	32.3	34.5	36.3	37.8	39.1	40.1	41.0	41.7	42.4	43.0
66	4.82	11.1	17.1	22.2	26.4	29.9	32.8	35.1	36.9	38.4	39.7	40.8	41.7	42.4	43.1	43.7
67	4.90	11.3	17.3	22.5	26.8	30.3	33.3	35.6	37.5	39.1	40.4	41.4	42.4	43.1	43.8	44.4
68	4.97	11.5	17.6	22.8	27.2	30.8	33.8	36.2	38.1	39.7	41.0	42.1	43.0	43.8	44.5	45.1
69	5.04	11.6	17.9	23.2	27.6	31.2	34.3	36.7	38.7	40.3	41.6	42.8	43.7	44.5	45.3	45.9
70	5.11	11.8	18.1	23.5	28.0	31.7	34.8	37.3	39.3	40.9	42.3	43.4	44.4	45.2	46.0	46.6
71	5.19	12.0	18.4	23.8	28.4	32.1	35.3	37.8	39.9	41.5	42.9	44.1	45.1	45.9	46.7	47.3
72	5.26	12.1	18.6	24.2	28.8	32.6	35.8	38.4	40.4	42.1	43.6	44.8	45.8	46.6	47.4	48.1
73	5.33	12.3	18.9	24.5	29.2	33.0	36.3	38.9	41.0	42.8	44.2	45.4	46.5	47.3	48.1	48.8
74	5.41	12.5	19.2	24.8	29.6	33.5	36.8	39.5	41.6	43.4	44.9	46.1	47.1	48.0	48.8	49.5
75	5.48	12.6	19.4	25.2	30.0	33.9	37.3	40.0	42.2	44.0	45.5	46.8	47.8	48.7	49.5	50.2
76	5.55	12.8	19.7	25.5	30.4	34.4	37.8	40.5	42.8	44.6	46.1	47.4	48.5	49.4	50.3	51.0
77	5.63	13.0	19.9	25.8	30.8	34.8	38.3	41.1	43.4	45.2	46.8	48.1	49.2	50.1	51.0	51.7
78	5.70	13.1	20.2	26.2	31.2	35.3	38.7	41.6	43.9	45.8	47.4	48.7	49.9	50.8	51.7	52.4
79	5.77	13.3	20.4	26.5	31.6	35.7	39.2	42.2	44.5	46.4	48.1	49.4	50.6	51.5	52.4	53.1
80	5.85	13.5	20.7	26.9	32.0	36.2	39.7	42.7	45.1	47.1	48.7	50.1	51.2	52.2	53.1	53.9
81	5.92	13.7	21.0	27.2	32.4	36.7	40.2	43.3	45.7	47.7	49.3	50.7	51.9	52.9	53.8	54.6
82	5.99	13.8	21.2	27.5	32.8	37.1	40.7	43.8	46.3	48.3	50.0	51.4	52.6	53.6	54.5	55.3
83	6.06	14.0	21.5	27.9	33.2	37.6	41.2	44.3	46.8	48.9	50.6	52.1	53.3	54.3	55.3	56.1
84	6.14	14.2	21.7	28.2	33.6	38.0	41.7	44.9	47.4	49.5	51.3	52.7	54.0	55.0	56.0	56.8
85	6.21	14.3	22.0	28.5	34.0	38.5	42.2	45.4	48.0	50.1	51.9	53.4	54.7	55.7	56.7	57.5
86	6.28	14.5	22.3	28.9	34.4	38.9	42.7	45.9	48.6	50.7	52.5	54.0	55.3	56.4	57.4	58.2
87	6.36	14.7	22.5	29.2	34.8	39.4	43.2	46.5	49.1	51.3	53.2	54.7	56.0	57.1	58.1	59.0
88	6.43	14.8	22.8	29.5	35.2	39.8	43.7	47.0	49.7	51.9	53.8	55.4	56.7	57.8	58.8	59.7
89	6.50	15.0	23.0	29.9	35.6	40.3	44.2	47.5	50.3	52.5	54.4	56.0	57.4	58.5	59.6	60.4
90	6.58	15.2	23.3	30.2	36.0	40.7	44.7	48.1	50.9	53.2	55.1	56.7	58.1	59.2	60.3	61.2
91	6.65	15.3	23.6	30.5	36.4	41.2	45.2	48.6	51.4	53.8	55.7	57.4	58.7	59.9	61.0	61.9
92	6.72	15.5	23.8	30.9	36.8	41.6	45.7	49.1	52.0	54.4	56.3	58.0	59.4	60.6	61.7	62.6
93	6.80	15.7	24.1	31.2	37.2	42.1	46.2	49.7	52.6	55.0	57.0	58.7	60.1	61.3	62.4	63.3
94	6.87	15.8	24.3	31.6	37.6	42.5	46.7	50.2	53.2	55.6	57.6	59.3	60.8	62.0	63.1	64.1
95	6.94	16.0	24.6	31.9	38.0	43.0	47.2	50.7	53.7	56.2	58.3	60.0	61.5	62.7	63.8	64.8
96	7.01	16.2	24.8	32.2	38.4	43.4	47.7	51.3	54.3	56.8	58.9	60.6	62.1	63.4	64.6	65.5
97	7.09	16.3	25.1	32.6	38.8	43.9	48.2	51.8	54.9	57.4	59.5	61.3	62.8	64.1	65.3	66.2
98	7.16	16.5	25.4	32.9	39.2	44.3	48.7	52.3	55.5	58.0	60.2	62.0	63.5	64.8	66.0	67.0
99	7.23	16.7	25.6	33.2	39.5	44.8	49.2	52.9	56.0	58.6	60.8	62.6	64.2	65.5	66.7	67.7
100	7.31	16.9	25.9	33.6	39.9	45.2	49.7	53.4	56.6	59.2	61.4	63.3	64.9	66.2	67.4	68.4
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
50	32.5	32.8	33.1	33.4	33.6	34.2	35.0	35.6	36.1	36.5	36.9					36.9	50
51	33.2	33.6	33.9	34.1	34.4	35.0	35.8	36.4	36.9	37.3	37.7					37.8	51
52	34.0	34.3	34.6	34.9	35.1	35.8	36.6	37.2	37.7	38.1	38.5					38.6	52
53	34.7	35.0	35.3	35.6	35.9	36.5	37.4	38.0	38.5	39.0	39.3					39.5	53
54	35.4	35.8	36.1	36.4	36.6	37.3	38.2	38.8	39.3	39.8	40.1					40.4	54
55	36.1	36.5	36.8	37.1	37.4	38.1	39.0	39.6	40.1	40.6	41.0					41.3	55
56	36.9	37.2	37.6	37.9	38.2	38.9	39.7	40.4	41.0	41.4	41.8					42.2	56
57	37.6	38.0	38.3	38.6	38.9	39.6	40.5	41.2	41.8	42.2	42.6					43.1	57
58	38.3	38.7	39.1	39.4	39.7	40.4	41.3	42.0	42.6	43.0	43.4					44.0	58
59	39.1	39.5	39.8	40.1	40.4	41.2	42.1	42.8	43.4	43.9	44.3					44.9	59
60	39.8	40.2	40.6	40.9	41.2	42.0	42.9	43.6	44.2	44.7	45.1	45.8				45.8	60
61	40.5	41.0	41.3	41.7	42.0	42.7	43.7	44.4	45.0	45.5	45.9	46.6				46.7	61
62	41.3	41.7	42.1	42.4	42.7	43.5	44.5	45.2	45.8	46.3	46.8	47.4				47.6	62
63	42.0	42.4	42.8	43.2	43.5	44.3	45.3	46.1	46.7	47.2	47.6	48.3				48.5	63
64	42.7	43.2	43.6	43.9	44.3	45.1	46.1	46.9	47.5	48.0	48.4	49.1				49.4	64
65	43.5	43.9	44.3	44.7	45.0	45.9	46.9	47.7	48.3	48.8	49.2	50.0				50.3	65
66	44.2	44.7	45.1	45.4	45.8	46.6	47.7	48.5	49.1	49.6	50.1	50.8				51.2	66
67	44.9	45.4	45.8	46.2	46.6	47.4	48.5	49.3	49.9	50.5	50.9	51.6				52.1	67
68	45.7	46.2	46.6	47.0	47.3	48.2	49.3	50.1	50.8	51.3	51.7	52.5				53.0	68
69	46.4	46.9	47.3	47.7	48.1	49.0	50.1	50.9	51.6	52.1	52.6	53.3				53.9	69
70	47.2	47.7	48.1	48.5	48.9	49.8	50.9	51.7	52.4	52.9	53.4	54.2	54.8			54.8	70
71	47.9	48.4	48.8	49.3	49.6	50.5	51.7	52.6	53.2	53.8	54.3	55.0	55.6			55.7	71
72	48.6	49.1	49.6	50.0	50.4	51.3	52.5	53.4	54.1	54.6	55.1	55.9	56.5			56.6	72
73	49.4	49.9	50.4	50.8	51.2	52.1	53.3	54.2	54.9	55.4	55.9	56.7	57.4			57.5	73
74	50.1	50.6	51.1	51.5	51.9	52.9	54.1	55.0	55.7	56.3	56.8	57.6	58.2			58.4	74
75	50.8	51.4	51.9	52.3	52.7	53.7	54.9	55.8	56.5	57.1	57.6	58.4	59.1			59.3	75
76	51.6	52.1	52.6	53.1	53.5	54.5	55.7	56.6	57.4	57.9	58.4	59.3	59.9			60.3	76
77	52.3	52.9	53.4	53.8	54.2	55.3	56.5	57.5	58.2	58.8	59.3	60.1	60.8			61.2	77
78	53.1	53.6	54.1	54.6	55.0	56.1	57.3	58.3	59.0	59.6	60.1	61.0	61.6			62.1	78
79	53.8	54.4	54.9	55.4	55.8	56.8	58.1	59.1	59.8	60.5	61.0	61.8	62.5			63.0	79
80	54.5	55.1	55.7	56.1	56.6	57.6	58.9	59.9	60.7	61.3	61.8	62.7	63.3			63.9	80
81	55.3	55.9	56.4	56.9	57.3	58.4	59.8	60.7	61.5	62.1	62.7	63.5	64.2			64.8	81
82	56.0	56.6	57.2	57.7	58.1	59.2	60.6	61.6	62.3	63.0	63.5	64.4	65.1			65.7	82
83	56.8	57.4	57.9	58.4	58.9	60.0	61.4	62.4	63.2	63.8	64.3	65.2	65.9			66.7	83
84	57.5	58.1	58.7	59.2	59.6	60.8	62.2	63.2	64.0	64.6	65.2	66.1	66.8			67.6	84
85	58.2	58.9	59.4	60.0	60.4	61.6	63.0	64.0	64.8	65.5	66.0	66.9	67.6			68.5	85
86	59.0	59.6	60.2	60.7	61.2	62.4	63.8	64.8	65.7	66.3	66.9	67.8	68.5			69.4	86
87	59.7	60.4	61.0	61.5	62.0	63.2	64.6	65.7	66.5	67.2	67.7	68.6	69.4			70.3	87
88	60.5	61.1	61.7	62.3	62.7	63.9	65.4	66.5	67.3	68.0	68.6	69.5	70.2			71.3	88
89	61.2	61.9	62.5	63.0	63.5	64.7	66.2	67.3	68.2	68.8	69.4	70.4	71.1			72.2	89
90	61.9	62.6	63.2	63.8	64.3	65.5	67.0	68.1	69.0	69.7	70.3	71.2	72.0	73.1		73.1	90
91	62.7	63.4	64.0	64.6	65.1	66.3	67.9	69.0	69.8	70.5	71.1	72.1	72.8	74.0		74.0	91
92	63.4	64.1	64.8	65.3	65.8	67.1	68.7	69.8	70.7	71.4	72.0	72.9	73.7	74.9		75.0	92
93	64.2	64.9	65.5	66.1	66.6	67.9	69.5	70.6	71.5	72.2	72.8	73.8	74.5	75.7		75.9	93
94	64.9	65.6	66.3	66.9	67.4	68.7	70.3	71.4	72.3	73.1	73.7	74.6	75.4	76.6		76.8	94
95	65.6	66.4	67.0	67.6	68.2	69.5	71.1	72.3	73.2	73.9	74.5	75.5	76.3	77.5		77.7	95
96	66.4	67.1	67.8	68.4	68.9	70.3	71.9	73.1	74.0	74.8	75.4	76.4	77.1	78.4		78.7	96
97	67.1	67.9	68.6	69.2	69.7	71.1	72.7	73.9	74.9	75.6	76.2	77.2	78.0	79.2		79.6	97
98	67.9	68.6	69.3	69.9	70.5	71.9	73.6	74.8	75.7	76.4	77.1	78.1	78.9	80.1		80.5	98
99	68.6	69.4	70.1	70.7	71.3	72.7	74.4	75.6	76.5	77.3	77.9	78.9	79.7	81.0		81.4	99
100	69.3	70.1	70.8	71.5	72.0	73.5	75.2	76.4	77.4	78.1	78.8	79.8	80.6	81.9		82.4	100
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	7.31	16.9	25.9	33.6	39.9	45.2	49.7	53.4	56.6	59.2	61.4	63.3	64.9	66.2	67.4	68.4
102	7.45	17.2	26.4	34.2	40.7	46.2	50.7	54.5	57.7	60.4	62.7	64.6	66.2	67.6	68.8	69.9
104	7.60	17.5	26.9	34.9	41.5	47.1	51.7	55.6	58.9	61.6	63.9	65.9	67.6	69.0	70.3	71.3
106	7.75	17.9	27.4	35.6	42.3	48.0	52.7	56.6	60.0	62.8	65.2	67.2	68.9	70.4	71.7	72.8
108	7.89	18.2	28.0	36.3	43.1	48.9	53.7	57.7	61.1	64.0	66.5	68.5	70.3	71.8	73.1	74.2
110	8.04	18.5	28.5	36.9	43.9	49.8	54.6	58.8	62.3	65.2	67.7	69.8	71.6	73.2	74.5	75.7
112	8.18	18.9	29.0	37.6	44.7	50.7	55.6	59.8	63.4	66.4	69.0	71.1	73.0	74.6	76.0	77.2
114	8.33	19.2	29.5	38.3	45.5	51.6	56.6	60.9	64.5	67.6	70.2	72.4	74.3	76.0	77.4	78.6
116	8.48	19.6	30.0	38.9	46.3	52.5	57.6	62.0	65.7	68.8	71.5	73.8	75.7	77.4	78.8	80.1
118	8.62	19.9	30.5	39.6	47.1	53.4	58.6	63.0	66.8	70.0	72.7	75.1	77.0	78.7	80.2	81.5
120	8.77	20.2	31.1	40.3	47.9	54.3	59.6	64.1	67.9	71.2	74.0	76.4	78.4	80.1	81.6	83.0
122	8.91	20.6	31.6	41.0	48.7	55.2	60.6	65.2	69.1	72.3	75.2	77.7	79.7	81.5	83.1	84.4
124	9.06	20.9	32.1	41.6	49.5	56.1	61.6	66.2	70.2	73.5	76.5	79.0	81.1	82.9	84.5	85.9
126	9.21	21.2	32.6	42.3	50.3	57.0	62.6	67.3	71.3	74.7	77.7	80.3	82.4	84.3	85.9	87.3
128	9.35	21.6	33.1	43.0	51.1	57.9	63.6	68.4	72.4	75.9	78.9	81.6	83.8	85.7	87.3	88.8
130	9.50	21.9	33.6	43.6	51.9	58.8	64.6	69.4	73.6	77.1	80.2	82.8	85.1	87.0	88.7	90.
132	9.65	22.2	34.2	44.3	52.7	59.7	65.6	70.5	74.7	78.3	81.4	84.1	86.4	88.4	90.1	91.7
134	9.79	22.6	34.7	45.0	53.5	60.6	66.6	71.6	75.8	79.5	82.6	85.4	87.8	89.8	91.6	93.1
136	9.94	22.9	35.2	45.6	54.3	61.5	67.6	72.6	77.0	80.7	83.9	86.7	89.1	91.2	93.0	94.5
138	10.1	23.3	35.7	46.3	55.1	62.4	68.6	73.7	78.1	81.8	85.1	87.9	90.5	92.6	94.4	96.0
140	10.2	23.6	36.2	47.0	55.9	63.3	69.5	74.8	79.2	83.0	86.3	89.2	91.8	93.9	95.8	97.4
142	10.4	23.9	36.8	47.7	56.7	64.3	70.5	75.8	80.4	84.2	87.6	90.5	93.1	95.3	97.2	98.9
144	10.5	24.3	37.3	48.3	57.5	65.2	71.5	76.9	81.5	85.4	88.8	91.8	94.4	96.7	98.6	100.3
146	10.7	24.6	37.8	49.0	58.3	66.1	72.5	78.0	82.6	86.6	90.0	93.0	95.7	98.1	100.0	101.8
148	10.8	24.9	38.3	49.7	59.1	67.0	73.5	79.1	83.8	87.8	91.3	94.3	97.0	99.4	101.4	103.2
150	11.0	25.3	38.8	50.3	59.9	67.9	74.5	80.1	84.9	89.0	92.5	95.6	98.3	100.8	102.8	104.6
152	11.1	25.6	39.3	51.0	60.7	68.8	75.5	81.2	86.0	90.1	93.7	96.9	99.7	102.1	104.2	106.1
154	11.3	26.0	39.9	51.7	61.5	69.7	76.5	82.3	87.2	91.3	95.0	98.1	101.0	103.5	105.7	107.5
156	11.4	26.3	40.4	52.4	62.3	70.6	77.5	83.3	88.3	92.5	96.2	99.4	102.3	104.8	107.1	108.9
158	11.5	26.6	40.9	53.0	63.1	71.5	78.5	84.4	89.4	93.7	97.4	100.7	103.6	106.2	108.5	110.4
160	11.7	27.0	41.4	53.7	63.9	72.4	79.5	85.5	90.6	94.9	98.7	102.0	104.9	107.5	109.9	111.8
162	11.8	27.3	41.9	54.4	64.7	73.3	80.5	86.5	91.7	96.1	99.9	103.2	106.2	108.9	111.2	113.3
164	12.0	27.6	42.4	55.0	65.5	74.2	81.5	87.6	92.8	97.3	101.1	104.5	107.5	110.2	112.6	114.7
166	12.1	28.0	43.0	55.7	66.3	75.1	82.5	88.7	94.0	98.4	102.4	105.8	108.8	111.5	114.0	116.1
168	12.3	28.3	43.5	56.4	67.1	76.0	83.5	89.7	95.1	99.6	103.6	107.1	110.1	112.9	115.4	117.5
170	12.4	28.7	44.0	57.1	67.9	76.9	84.4	90.8	96.2	100.8	104.8	108.3	111.5	114.2	116.7	119.0
172	12.6	29.0	44.5	57.7	68.7	77.8	85.4	91.9	97.4	102.0	106.1	109.6	112.8	115.6	118.1	120.4
174	12.7	29.3	45.0	58.4	69.5	78.7	86.4	92.9	98.5	103.2	107.3	110.9	114.1	116.9	119.5	121.8
176	12.9	29.7	45.6	59.1	70.3	79.6	87.4	94.0	99.6	104.4	108.5	112.2	115.4	118.3	120.8	123.2
178	13.0	30.0	46.1	59.7	71.1	80.5	88.4	95.1	100.7	105.6	109.8	113.4	116.7	119.6	122.2	124.6
180	13.2	30.3	46.6	60.4	71.9	81.4	89.4	96.1	101.9	106.7	111.0	114.7	118.0	121.0	123.6	126.0
182	13.3	30.7	47.1	61.1	72.7	82.4	90.4	97.2	103.0	107.9	112.2	116.0	119.3	122.3	125.0	127.4
184	13.4	31.0	47.6	61.8	73.5	83.3	91.4	98.3	104.1	109.1	113.5	117.3	120.6	123.6	126.3	128.8
186	13.6	31.4	48.1	62.4	74.3	84.2	92.4	99.3	105.3	110.3	114.7	118.5	121.9	125.0	127.7	130.2
188	13.7	31.7	48.7	63.1	75.1	85.1	93.4	100.4	106.4	111.5	115.9	119.8	123.3	126.3	129.1	131.6
190	13.9	32.0	49.2	63.8	75.9	86.0	94.4	101.5	107.5	112.7	117.2	121.1	124.6	127.7	130.5	133.0
192	14.0	32.4	49.7	64.4	76.7	86.9	95.4	102.6	108.7	113.9	118.4	122.4	125.9	129.0	131.8	134.4
194	14.2	32.7	50.2	65.1	77.5	87.8	96.4	103.6	109.8	115.0	119.6	123.6	127.2	130.4	133.2	135.8
196	14.3	33.0	50.7	65.8	78.3	88.7	97.4	104.7	110.9	116.2	120.9	124.9	128.5	131.7	134.6	137.2
198	14.5	33.4	51.2	66.5	79.1	89.6	98.4	105.8	112.1	117.4	122.1	126.2	129.8	133.1	136.0	138.6
200	14.6	33.7	51.8	67.1	79.9	90.5	99.4	106.8	113.2	118.6	123.3	127.5	131.1	134.4	137.3	140.0
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
100	69.3	70.1	70.8	71.5	72.0	73.5	75.2	76.4	77.4	78.1	78.8	79.8	80.6	81.9		82.4
102	70.8	71.6	72.4	73.0	73.6	75.1	76.8	78.1	79.1	79.8	80.5	81.5	82.4	83.6		84.2
104	72.3	73.1	73.9	74.5	75.1	76.6	78.4	79.7	80.7	81.5	82.2	83.3	84.1	85.4		86.1
106	73.8	74.6	75.4	76.1	76.7	78.2	80.1	81.4	82.4	83.2	83.9	85.0	85.8	87.1		87.9
108	75.2	76.1	76.9	77.6	78.3	79.8	81.7	83.1	84.1	84.9	85.6	86.7	87.6	88.9		89.8
110	76.7	77.6	78.4	79.2	79.8	81.4	83.4	84.7	85.8	86.6	87.3	88.4	89.3	90.7	91.7	91.7
112	78.2	79.1	80.0	80.7	81.4	83.0	85.0	86.4	87.5	88.3	89.0	90.2	91.1	92.4	93.5	93.5
114	79.7	80.6	81.5	82.2	82.9	84.6	86.6	88.1	89.2	90.0	90.8	91.9	92.8	94.2	95.2	95.4
116	81.2	82.1	83.0	83.8	84.5	86.2	88.3	89.7	90.9	91.7	92.5	93.7	94.6	96.0	97.0	97.3
118	82.6	83.6	84.5	85.3	86.0	87.8	89.9	91.4	92.5	93.5	94.2	95.4	96.3	97.7	98.8	99.2
120	84.1	85.1	86.0	86.9	87.6	89.4	91.6	93.1	94.2	95.2	95.9	97.1	98.1	99.5	100.6	101.0
122	85.6	86.6	87.6	88.4	89.1	91.0	93.2	94.8	95.9	96.9	97.6	98.9	99.8	101.3	102.4	102.9
124	87.1	88.1	89.1	89.9	90.7	92.6	94.8	96.4	97.6	98.6	99.4	100.6	101.6	103.0	104.1	104.8
126	88.5	89.6	90.6	91.5	92.3	94.2	96.5	98.1	99.3	100.3	101.1	102.4	103.3	104.8	105.9	106.7
128	90.0	91.1	92.1	93.0	93.8	95.8	98.1	99.8	101.0	102.0	102.8	104.1	105.1	106.6	107.7	108.5
130	91.5	92.6	93.7	94.6	95.4	97.4	99.8	101.4	102.7	103.7	104.5	105.8	106.9	108.4	109.5	110.4
132	93.0	94.1	95.2	96.1	96.9	99.0	101.4	103.1	104.4	105.4	106.3	107.6	108.6	110.2	111.3	112.3
134	94.4	95.6	96.7	97.6	98.5	100.6	103.1	104.8	106.1	107.1	108.0	109.3	110.4	111.9	113.1	114.2
136	95.9	97.1	98.2	99.2	100.0	102.2	104.7	106.5	107.8	108.9	109.7	111.1	112.1	113.7	114.9	116.1
138	97.4	98.6	99.7	100.7	101.6	103.8	106.4	108.2	109.5	110.6	111.5	112.8	113.9	115.5	116.7	118.0
140	98.9	100.1	101.2	102.2	103.1	105.4	108.0	109.8	111.2	112.3	113.2	114.6	115.7	117.3	118.5	119.9
142	100.3	101.6	102.8	103.8	104.7	107.0	109.6	111.5	112.9	114.0	114.9	116.3	117.4	119.1	120.3	121.8
144	101.8	103.1	104.3	105.3	106.3	108.6	111.3	113.2	114.6	115.7	116.7	118.1	119.2	120.8	122.1	123.6
146	103.3	104.6	105.8	106.9	107.8	110.2	112.9	114.9	116.3	117.5	118.4	119.9	121.0	122.6	123.9	125.5
148	104.7	106.1	107.3	108.4	109.4	111.8	114.6	116.6	118.0	119.2	120.1	121.6	122.7	124.4	125.7	127.4
150	106.2	107.6	108.8	109.9	110.9	113.4	116.2	118.2	119.7	120.9	121.9	123.4	124.5	126.2	127.5	129.3
152	107.7	109.1	110.3	111.5	112.5	115.0	117.9	119.9	121.4	122.6	123.6	125.1	126.3	128.0	129.3	131.2
154	109.1	110.6	111.9	113.0	114.0	116.6	119.5	121.6	123.2	124.4	125.3	126.9	128.0	129.8	131.1	133.1
156	110.6	112.1	113.4	114.5	115.6	118.2	121.2	123.3	124.9	126.1	127.1	128.6	129.8	131.6	132.9	135.0
158	112.1	113.6	114.9	116.1	117.1	119.8	122.8	125.0	126.6	127.8	128.8	130.4	131.6	133.4	134.7	136.9
160	113.5	115.1	116.4	117.6	118.7	121.4	124.5	126.7	128.3	129.5	130.6	132.2	133.4	135.2	136.5	138.8
162	115.0	116.5	117.9	119.1	120.3	123.0	126.1	128.4	130.0	131.3	132.3	133.9	135.1	137.0	138.3	140.7
164	116.5	118.0	119.4	120.7	121.8	124.6	127.8	130.0	131.7	133.0	134.0	135.7	136.9	138.7	140.1	142.6
166	117.9	119.5	120.9	122.2	123.4	126.2	129.5	131.7	133.4	134.7	135.8	137.4	138.7	140.5	141.9	144.5
168	119.4	121.0	122.5	123.7	124.9	127.8	131.1	133.4	135.1	136.5	137.5	139.2	140.5	142.3	143.7	146.4
170	120.8	122.5	124.0	125.3	126.5	129.4	132.8	135.1	136.8	138.2	139.3	141.0	142.3	144.1	145.5	148.3
172	122.3	124.0	125.5	126.8	128.0	131.0	134.4	136.8	138.6	139.9	141.0	142.7	144.0	145.9	147.3	150.2
174	123.8	125.5	127.0	128.3	129.6	132.6	136.1	138.5	140.3	141.7	142.8	144.5	145.8	147.7	149.1	152.1
176	125.2	127.0	128.5	129.9	131.1	134.2	137.7	140.2	142.0	143.4	144.5	146.3	147.6	149.5	151.0	154.0
178	126.7	128.4	130.0	131.4	132.7	135.8	139.4	141.9	143.7	145.1	146.3	148.0	149.4	151.3	152.8	156.0
180	128.1	129.9	131.5	132.9	134.2	137.3	141.0	143.5	145.4	146.9	148.0	149.8	151.2	153.1	154.6	157.9
182	129.6	131.4	133.0	134.5	135.8	138.9	142.7	145.2	147.1	148.6	149.8	151.6	152.9	154.9	156.4	159.8
184	131.0	132.9	134.5	136.0	137.3	140.5	144.3	146.9	148.8	150.3	151.5	153.3	154.7	156.7	158.2	161.7
186	132.4	134.4	136.0	137.5	138.9	142.1	146.0	148.6	150.6	152.1	153.3	155.1	156.5	158.5	160.0	163.6
188	133.8	135.9	137.5	139.1	140.4	143.7	147.6	150.3	152.3	153.8	155.0	156.9	158.3	160.3	161.8	165.5
190	135.3	137.3	139.0	140.6	142.0	145.3	149.3	152.0	154.0	155.5	156.8	158.7	160.1	162.1	163.7	167.4
192	136.7	138.8	140.6	142.1	143.5	146.9	150.9	153.7	155.7	157.3	158.5	160.4	161.9	164.0	165.5	169.3
194	138.1	140.2	142.1	143.6	145.1	148.5	152.6	155.4	157.4	159.0	160.3	162.2	163.7	165.8	167.3	171.2
196	139.5	141.7	143.6	145.2	146.6	150.1	154.3	157.1	159.1	160.7	162.0	164.0	165.4	167.6	169.1	173.2
198	141.0	143.1	145.1	146.7	148.1	151.7	155.9	158.8	160.9	162.5	163.8	165.7	167.2	169.4	170.9	175.1
200	142.4	144.6	146.6	148.2	149.7	153.3	157.6	160.5	162.6	164.2	165.5	167.5	169.0	171.2	172.7	177.0
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

k

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	14.6	33.7	51.8	67.1	79.9	90.5	99.4	106.8	113.2	118.6	123.3	127.5	131.1	134.4	137.3	140.0
202	14.8	34.0	52.3	67.8	80.7	91.4	100.3	107.9	114.3	119.8	124.6	128.7	132.4	135.7	138.7	141.4
204	14.9	34.4	52.8	68.5	81.5	92.3	101.3	109.0	115.5	121.0	125.8	130.0	133.7	137.1	140.1	142.8
206	15.1	34.7	53.3	69.1	82.3	93.2	102.3	110.0	116.6	122.2	127.0	131.3	135.1	138.4	141.4	144.2
208	15.2	35.1	53.8	69.8	83.1	94.1	103.3	111.1	117.7	123.4	128.3	132.6	136.4	139.8	142.8	145.6
210	15.3	35.4	54.4	70.5	83.9	95.0	104.3	112.2	118.9	124.5	129.5	133.8	137.7	141.1	144.2	147.0
212	15.5	35.7	54.9	71.2	84.7	95.9	105.3	113.2	120.0	125.7	130.7	135.1	139.0	142.5	145.6	148.4
214	15.6	36.1	55.4	71.8	85.5	96.8	106.3	114.3	121.1	126.9	132.0	136.4	140.3	143.8	146.9	149.8
216	15.8	36.4	55.9	72.5	86.3	97.7	107.3	115.4	122.3	128.1	133.2	137.7	141.6	145.1	148.3	151.2
218	15.9	36.7	56.4	73.2	87.1	98.6	108.3	116.4	123.4	129.3	134.4	138.9	142.9	146.5	149.7	152.6
220	16.1	37.1	56.9	73.8	87.9	99.5	109.3	117.5	124.5	130.5	135.6	140.2	144.2	147.8	151.1	154.0
222	16.2	37.4	57.5	74.5	88.7	100.4	110.3	118.6	125.7	131.7	136.9	141.5	145.5	149.2	152.4	155.4
224	16.4	37.8	58.0	75.2	89.5	101.4	111.3	119.6	126.8	132.8	138.1	142.8	146.9	150.5	153.8	156.8
226	16.5	38.1	58.5	75.9	90.3	102.3	112.3	120.7	127.9	134.0	139.3	144.0	148.2	151.9	155.2	158.2
228	16.7	38.4	59.0	76.5	91.1	103.2	113.3	121.8	129.0	135.2	140.6	145.3	149.5	153.2	156.6	159.6
230	16.8	38.8	59.5	77.2	91.9	104.1	114.3	122.9	130.2	136.4	141.8	146.6	150.8	154.6	157.9	161.0
232	17.0	39.1	60.0	77.9	92.7	105.0	115.2	123.9	131.3	137.6	143.0	147.9	152.1	155.9	159.3	162.4
234	17.1	39.4	60.6	78.5	93.5	105.9	116.2	125.0	132.4	138.8	144.3	149.1	153.4	157.2	160.7	163.8
236	17.2	39.8	61.1	79.2	94.3	106.8	117.2	126.1	133.6	140.0	145.5	150.4	154.7	158.6	162.0	165.2
238	17.4	40.1	61.6	79.9	95.1	107.7	118.2	127.1	134.7	141.1	146.7	151.7	156.0	159.9	163.4	166.6
240	17.5	40.5	62.1	80.6	95.9	108.6	119.2	128.2	135.8	142.3	148.0	153.0	157.4	161.3	164.8	168.0
242	17.7	40.8	62.6	81.2	96.7	109.5	120.2	129.3	137.0	143.5	149.2	154.2	158.7	162.6	166.2	169.4
244	17.8	41.1	63.1	81.9	97.5	110.4	121.2	130.3	138.1	144.7	150.4	155.5	160.0	164.0	167.5	170.8
246	18.0	41.5	63.7	82.6	98.3	111.3	122.2	131.4	139.2	145.9	151.7	156.8	161.3	165.3	168.9	172.2
248	18.1	41.8	64.2	83.2	99.1	112.2	123.2	132.5	140.4	147.1	152.9	158.0	162.6	166.6	170.3	173.6
250	18.3	42.1	64.7	83.9	99.9	113.1	124.2	133.5	141.5	148.3	154.1	159.3	163.9	168.0	171.7	175.0
	.072	.170	.258	.336	.398	.452	.496	.534	.566	.592	.618	.638	.656	.672	.686	.700
300	21.9	50.6	77.6	100.7	119.8	135.7	149.0	160.2	169.8	177.9	185.0	191.2	196.7	201.6	206.0	210.0
	.074	.168	.260	.336	.400	.454	.498	.534	.566	.594	.616	.638	.656	.672	.686	.700
350	25.6	59.0	90.6	117.5	139.8	158.4	173.9	186.9	198.1	207.6	215.8	223.1	229.5	235.2	240.3	245.0
	.072	.168	.258	.336	.400	.452	.496	.536	.566	.592	.616	.636	.656	.672	.688	.698
400	29.2	67.4	103.5	134.3	159.8	181.0	198.7	213.7	226.4	237.2	246.6	254.9	262.3	268.8	274.7	279.9
	.074	.168	.260	.334	.400	.452	.496	.534	.566	.594	.618	.638	.654	.672	.686	.700
450	32.9	75.8	116.5	151.0	179.8	203.6	223.5	240.4	254.7	266.9	277.5	286.8	295.0	302.4	309.0	314.9
	.072	.170	.258	.336	.398	.452	.498	.534	.566	.592	.616	.636	.656	.672	.686	.700
500	36.5	84.3	129.4	167.8	199.7	226.2	248.4	267.1	283.0	296.5	308.3	318.6	327.8	336.0	343.3	349.9
	.073	.168	.259	.336	.400	.453	.497	.534	.566	.593	.617	.638	.656	.672	.687	.700
600	43.8	101.1	155.3	201.4	239.7	271.5	298.1	320.5	339.6	355.8	370.0	382.4	393.4	403.2	412.0	419.9
	.073	.169	.259	.336	.399	.452	.496	.534	.566	.593	.616	.637	.655	.672	.686	.700
700	51.1	118.0	181.2	235.0	279.6	316.7	347.7	373.9	396.2	415.1	431.6	446.1	458.9	470.4	480.6	489.9
	.074	.168	.258	.335	.400	.453	.497	.534	.566	.593	.617	.637	.656	.672	.687	.700
800	58.5	134.8	207.0	268.5	319.6	362.0	397.4	427.3	452.8	474.4	493.3	509.8	524.5	537.6	549.3	559.9
	.073	.169	.259	.336	.399	.452	.497	.534	.566	.593	.616	.638	.656	.672	.687	.700
900	65.8	151.7	232.9	302.1	359.5	407.2	447.1	480.7	509.4	533.7	554.9	573.6	590.1	604.8	618.0	629.9
	.073	.169	.259	.336	.400	.453	.497	.534	.566	.593	.617	.637	.655	.672	.686	.700
1000	73.1	168.6	258.8	335.7	399.5	452.5	496.8	534.1	566.0	593.0	616.6	637.3	655.6	672.0	686.6	699.9
	.073	.168	.259	.335	.399	.452	.496	.534	.566	.593	.616	.637	.656	.672	.687	.700
1100	80.4	185.4	284.7	369.2	439.4	497.7	546.4	587.5	622.6	652.3	678.2	701.0	721.2	739.2	755.3	769.9
	.0731	.1686	.2588	.3357	.3995	.4525	.4968	.5341	.5660	.5930	.6166	.6373	.6556	.6720	.6866	.6999
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

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N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
200	142.4	144.6	146.6	148.2	149.7	153.3	157.6	160.5	162.6	164.2	165.5	167.5	169.0	171.2	172.7	177.0
202	143.8	146.0	148.0	149.7	151.2	154.9	159.2	162.2	164.3	166.0	167.3	169.3	170.8	173.0	174.6	178.9
204	145.2	147.5	149.5	151.3	152.8	156.5	160.9	163.8	166.0	167.7	169.0	171.1	172.6	174.8	176.4	180.8
206	146.6	148.9	151.0	152.8	154.3	158.1	162.5	165.5	167.7	169.4	170.8	172.9	174.4	176.6	178.2	182.7
208	148.1	150.3	152.4	154.3	155.9	159.7	164.2	167.2	169.5	171.2	172.5	174.6	176.2	178.4	180.0	184.7
210	149.5	151.8	153.9	155.8	157.4	161.3	165.8	168.9	171.2	172.9	174.3	176.4	178.0	180.2	181.9	186.6
212	150.9	153.2	155.4	157.3	158.9	162.9	167.5	170.6	172.9	174.7	176.1	178.2	179.8	182.0	183.7	188.5
214	152.3	154.7	156.8	158.8	160.5	164.5	169.1	172.3	174.6	176.4	177.8	180.0	181.6	183.9	185.5	190.4
216	153.8	156.1	158.3	160.3	162.0	166.1	170.8	174.0	176.3	178.1	179.6	181.7	183.3	185.7	187.3	192.3
218	155.2	157.6	159.8	161.8	163.6	167.7	172.4	175.7	178.1	179.9	181.3	183.5	185.1	187.5	189.2	194.3
220	156.6	159.0	161.2	163.2	165.1	169.3	174.1	177.4	179.8	181.6	183.1	185.3	186.9	189.3	191.0	196.2
222	158.0	160.5	162.7	164.7	166.6	170.9	175.8	179.1	181.5	183.4	184.8	187.1	188.7	191.1	192.8	198.1
224	159.5	161.9	164.2	166.2	168.1	172.4	177.4	180.8	183.2	185.1	186.6	188.9	190.5	192.9	194.6	200.0
226	160.9	163.4	165.6	167.7	169.6	174.0	179.1	182.5	185.0	186.8	188.4	190.6	192.3	194.7	196.5	202.0
228	162.3	164.8	167.1	169.2	171.1	175.6	180.7	184.2	186.7	188.6	190.1	192.4	194.1	196.6	198.3	203.9
230	163.7	166.2	168.5	170.7	172.6	177.2	182.4	185.9	188.4	190.3	191.9	194.2	195.9	198.4	200.1	205.8
232	165.2	167.7	170.0	172.1	174.1	178.8	184.0	187.6	190.1	192.1	193.6	196.0	197.7	200.2	202.0	207.7
234	166.6	169.1	171.5	173.6	175.6	180.4	185.7	189.3	191.8	193.8	195.4	197.8	199.5	202.0	203.8	209.7
236	168.0	170.6	172.9	175.1	177.1	182.0	187.3	190.9	193.6	195.6	197.2	199.6	201.3	203.8	205.6	211.6
238	169.4	172.0	174.4	176.6	178.6	183.6	189.0	192.6	195.3	197.3	198.9	201.3	203.1	205.6	207.4	213.5
240	170.9	173.5	175.9	178.1	180.1	185.2	190.6	194.3	197.0	199.1	200.7	203.1	204.9	207.5	209.3	215.4
242	172.3	174.9	177.3	179.6	181.6	186.8	192.3	196.0	198.7	200.8	202.4	204.9	206.7	209.3	211.1	217.4
244	173.7	176.4	178.8	181.1	183.1	188.3	193.9	197.7	200.5	202.5	204.2	206.7	208.5	211.1	212.9	219.3
246	175.1	177.8	180.3	182.5	184.6	189.9	195.6	199.4	202.2	204.3	206.0	208.5	210.3	212.9	214.8	221.2
248	176.5	179.3	181.7	184.0	186.1	191.5	197.2	201.1	203.9	206.0	207.7	210.3	212.1	214.7	216.6	223.2
250	178.0	180.7	183.2	185.5	187.6	193.1	198.9	202.8	205.6	207.8	209.5	212.0	213.9	216.6	218.4	225.1
	.712	.722	.732	.742	.752	.772	.824	.848	.864	.874	.882	.896	.904	.912	.920	.968
300	213.6	216.8	219.8	222.6	225.2	231.7	240.1	245.2	248.8	251.5	253.6	256.8	259.1	262.2	264.4	273.5
	.712	.724	.734	.742	.750	.772	.800	.844	.862	.876	.886	.898	.906	.918	.924	.972
350	249.2	253.0	256.5	259.7	262.7	270.3	280.1	287.4	291.9	295.3	297.9	301.7	304.4	308.1	310.6	322.1
	.712	.722	.732	.742	.750	.774	.800	.822	.862	.874	.886	.900	.908	.920	.926	.976
400	284.8	289.1	293.1	296.8	300.2	309.0	320.1	328.5	335.0	339.0	342.2	346.7	349.8	354.1	356.9	370.9
	.710	.724	.734	.742	.750	.772	.802	.822	.838	.876	.886	.900	.912	.922	.930	.978
450	320.3	325.3	329.8	333.9	337.7	347.6	360.2	369.6	376.9	382.8	386.5	391.7	395.4	400.2	403.4	419.8
	.712	.722	.732	.742	.752	.772	.800	.820	.838	.850	.884	.902	.912	.926	.932	.982
500	355.9	361.4	366.4	371.0	375.3	386.2	400.2	410.6	418.8	425.3	430.7	436.8	441.0	446.5	450.0	468.9
	.712	.723	.733	.742	.750	.772	.800	.822	.837	.851	.862	.902	.913	.926	.934	.983
600	427.1	433.7	439.7	445.2	450.3	463.4	480.2	492.8	502.5	510.4	516.9	527.0	532.3	539.1	543.4	567.2
	.712	.723	.733	.742	.751	.773	.801	.821	.838	.851	.861	.878	.913	.928	.937	.986
700	498.3	506.0	513.0	519.4	525.4	540.7	560.3	574.9	586.3	595.5	603.0	614.8	623.6	631.9	637.1	665.8
	.712	.723	.733	.742	.750	.772	.800	.821	.837	.850	.862	.878	.891	.930	.938	.989
800	569.5	578.3	586.3	593.6	600.4	617.9	640.3	657.0	670.0	680.5	689.2	702.6	712.7	724.9	730.9	764.7
	.712	.722	.732	.742	.751	.773	.800	.821	.838	.851	.861	.879	.891	.930	.940	.990
900	640.7	650.5	659.5	667.8	675.5	695.2	720.3	739.1	753.8	765.6	775.3	790.5	801.8	817.9	824.9	863.7
	.712	.723	.733	.742	.750	.772	.801	.822	.838	.851	.862	.878	.891	.908	.940	.991
1000	711.9	722.8	732.8	742.0	750.5	772.4	800.4	821.3	837.6	850.7	861.5	878.3	890.9	908.7	918.9	962.8
	.712	.723	.733	.742	.751	.773	.800	.821	.837	.850	.861	.878	.891	.909	.941	.992
1100	783.1	795.1	806.1	816.2	825.6	849.7	880.4	903.4	921.3	935.7	947.6	966.1	980.0	999.6	1013.	1062.
	.7119	.7228	.7328	.7420	.7505	.7724	.8004	.8213	.8376	.8507	.8615	.8783	.8909	.9087	.9209	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

k

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.135															
3	.223	.418														
4	.313	.605	.810													
5	.391	.799	1.08	1.28												
6	.469	.996	1.37	1.62	1.81											
7	.548	1.19	1.65	1.97	2.21	2.38										
8	.626	1.39	1.94	2.33	2.61	2.82	2.99									
9	.704	1.59	2.24	2.70	3.03	3.27	3.47	3.63								
10	.782	1.77	2.53	3.06	3.45	3.73	3.96	4.14	4.29							
11	.860	1.94	2.83	3.43	3.87	4.20	4.45	4.66	4.83	4.97						
12	.939	2.12	3.12	3.81	4.30	4.67	4.96	5.18	5.37	5.53	5.67					
13	1.02	2.29	3.41	4.18	4.73	5.15	5.46	5.72	5.93	6.10	6.25	6.39				
14	1.10	2.47	3.71	4.55	5.17	5.63	5.98	6.26	6.49	6.68	6.84	6.99	7.12			
15	1.17	2.65	4.00	4.93	5.60	6.11	6.49	6.80	7.05	7.26	7.44	7.60	7.73	7.86		
16	1.25	2.82	4.29	5.30	6.04	6.59	7.01	7.35	7.62	7.85	8.04	8.21	8.36	8.49	8.61	
17	1.33	3.00	4.56	5.67	6.48	7.08	7.54	7.90	8.19	8.44	8.65	8.83	8.99	9.13	9.26	9.37
18	1.41	3.18	4.82	6.05	6.92	7.56	8.06	8.45	8.77	9.03	9.26	9.45	9.62	9.77	9.91	10.0
19	1.49	3.35	5.09	6.42	7.35	8.05	8.59	9.01	9.35	9.63	9.87	10.1	10.3	10.4	10.6	10.7
20	1.56	3.53	5.36	6.79	7.79	8.54	9.12	9.57	9.93	10.2	10.5	10.7	10.9	11.1	11.2	11.4
21	1.64	3.71	5.63	7.16	8.23	9.03	9.65	10.1	10.5	10.8	11.1	11.3	11.5	11.7	11.9	12.0
22	1.72	3.88	5.90	7.53	8.67	9.52	10.2	10.7	11.1	11.4	11.7	12.0	12.2	12.4	12.6	12.7
23	1.80	4.06	6.16	7.90	9.10	10.0	10.7	11.3	11.7	12.1	12.4	12.6	12.8	13.0	13.2	13.4
24	1.88	4.24	6.43	8.27	9.54	10.5	11.2	11.8	12.3	12.7	13.0	13.3	13.5	13.7	13.9	14.1
25	1.96	4.41	6.70	8.63	9.98	11.0	11.8	12.4	12.9	13.3	13.6	13.9	14.2	14.4	14.6	14.8
26	2.03	4.59	6.97	8.98	10.4	11.5	12.3	13.0	13.5	13.9	14.3	14.6	14.8	15.1	15.3	15.4
27	2.11	4.77	7.24	9.32	10.8	12.0	12.8	13.5	14.1	14.5	14.9	15.2	15.5	15.7	15.9	16.1
28	2.19	4.94	7.50	9.67	11.3	12.5	13.4	14.1	14.7	15.1	15.5	15.9	16.2	16.4	16.6	16.8
29	2.27	5.12	7.77	10.0	11.7	13.0	13.9	14.7	15.3	15.8	16.2	16.5	16.8	17.1	17.3	17.5
30	2.35	5.30	8.04	10.4	12.1	13.4	14.4	15.2	15.9	16.4	16.8	17.2	17.5	17.8	18.0	18.2
31	2.42	5.47	8.31	10.7	12.6	13.9	15.0	15.8	16.5	17.0	17.5	17.8	18.2	18.4	18.7	18.9
32	2.50	5.65	8.58	11.0	13.0	14.4	15.5	16.4	17.1	17.6	18.1	18.5	18.8	19.1	19.4	19.6
33	2.58	5.82	8.85	11.4	13.4	14.9	16.1	16.9	17.7	18.3	18.7	19.1	19.5	19.8	20.1	20.3
34	2.66	6.00	9.11	11.7	13.9	15.4	16.6	17.5	18.3	18.9	19.4	19.8	20.2	20.5	20.8	21.0
35	2.74	6.18	9.38	12.1	14.3	15.9	17.1	18.1	18.9	19.5	20.0	20.5	20.9	21.2	21.5	21.7
36	2.82	6.35	9.65	12.4	14.7	16.4	17.7	18.7	19.5	20.1	20.7	21.1	21.5	21.9	22.2	22.4
37	2.89	6.53	9.92	12.8	15.1	16.9	18.2	19.2	20.1	20.8	21.3	21.8	22.2	22.6	22.9	23.2
38	2.97	6.71	10.2	13.1	15.5	17.3	18.7	19.8	20.7	21.4	22.0	22.5	22.9	23.3	23.6	23.9
39	3.05	6.88	10.5	13.5	16.0	17.8	19.3	20.4	21.3	22.0	22.6	23.1	23.6	24.0	24.3	24.6
40	3.13	7.06	10.7	13.8	16.4	18.3	19.8	20.9	21.9	22.6	23.3	23.8	24.3	24.6	25.0	25.3
41	3.21	7.24	11.0	14.2	16.8	18.8	20.3	21.5	22.5	23.3	23.9	24.5	24.9	25.3	25.7	26.0
42	3.29	7.41	11.3	14.5	17.2	19.3	20.8	22.1	23.1	23.9	24.6	25.1	25.6	26.0	26.4	26.7
43	3.36	7.59	11.5	14.8	17.6	19.8	21.4	22.7	23.7	24.5	25.2	25.8	26.3	26.7	27.1	27.4
44	3.44	7.77	11.8	15.2	18.0	20.2	21.9	23.2	24.3	25.2	25.9	26.5	27.0	27.4	27.8	28.2
45	3.52	7.94	12.1	15.5	18.4	20.7	22.4	23.8	24.9	25.8	26.5	27.1	27.7	28.1	28.5	28.9
46	3.60	8.12	12.3	15.9	18.8	21.2	23.0	24.4	25.5	26.4	27.2	27.8	28.4	28.8	29.2	29.6
47	3.68	8.30	12.6	16.2	19.2	21.7	23.5	24.9	26.1	27.0	27.8	28.5	29.0	29.5	30.0	30.3
48	3.75	8.47	12.9	16.6	19.6	22.2	24.0	25.5	26.7	27.7	28.5	29.2	29.7	30.2	30.7	31.0
49	3.83	8.65	13.1	16.9	20.0	22.6	24.5	26.1	27.3	28.3	29.1	29.8	30.4	30.9	31.4	31.8
50	3.91	8.83	13.4	17.3	20.5	23.1	25.1	26.6	27.9	28.9	29.8	30.5	31.1	31.6	32.1	32.5
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
1																.0081
2																.135
3																.418
4																.810
5																1.28
6																1.81
7																2.38
8																2.99
9																3.63
10																4.29
11																4.97
12																5.67
13																6.39
14																7.12
15																7.86
16																8.61
17																9.37
18	10.1															10.1
19	10.8	10.9														10.9
20	11.5	11.6	11.7													11.7
21	12.2	12.3	12.4	12.5												12.5
22	12.8	13.0	13.1	13.2	13.3											13.3
23	13.5	13.7	13.8	13.9	14.0											14.1
24	14.2	14.4	14.5	14.6	14.7											14.9
25	14.9	15.1	15.2	15.3	15.4	15.7										15.7
26	15.6	15.8	15.9	16.0	16.2	16.5										16.6
27	16.3	16.5	16.6	16.7	16.9	17.2										17.4
28	17.0	17.2	17.3	17.5	17.6	17.9										18.2
29	17.7	17.9	18.0	18.2	18.3	18.7										19.1
30	18.4	18.6	18.8	18.9	19.0	19.4	19.9									19.9
31	19.1	19.3	19.5	19.6	19.8	20.1	20.6									20.7
32	19.8	20.0	20.2	20.4	20.5	20.9	21.4									21.6
33	20.5	20.7	20.9	21.1	21.2	21.6	22.2									22.4
34	21.3	21.5	21.6	21.8	22.0	22.4	22.9									23.3
35	22.0	22.2	22.4	22.6	22.7	23.1	23.7	24.1								24.1
36	22.7	22.9	23.1	23.3	23.5	23.9	24.5	24.9								25.0
37	23.4	23.6	23.8	24.0	24.2	24.6	25.2	25.7								25.9
38	24.1	24.4	24.6	24.8	24.9	25.4	26.0	26.5								26.7
39	24.8	25.1	25.3	25.5	25.7	26.2	26.8	27.3								27.6
40	25.6	25.8	26.0	26.2	26.4	26.9	27.6	28.0	28.5							28.5
41	26.3	26.5	26.8	27.0	27.2	27.7	28.3	28.8	29.2							29.3
42	27.0	27.3	27.5	27.7	27.9	28.4	29.1	29.6	30.0							30.2
43	27.7	28.0	28.3	28.5	28.7	29.2	29.9	30.4	30.8							31.1
44	28.5	28.7	29.0	29.2	29.4	30.0	30.7	31.2	31.6							31.9
45	29.2	29.5	29.7	30.0	30.2	30.7	31.4	32.0	32.4	32.8						32.8
46	29.9	30.2	30.5	30.7	30.9	31.5	32.2	32.8	33.2	33.6						33.7
47	30.7	31.0	31.2	31.5	31.7	32.3	33.0	33.6	34.1	34.4						34.6
48	31.4	31.7	32.0	32.2	32.4	33.0	33.8	34.4	34.9	35.3						35.5
49	32.1	32.4	32.7	33.0	33.2	33.8	34.6	35.2	35.7	36.1						36.4
50	32.8	33.2	33.5	33.7	34.0	34.6	35.4	36.0	36.5	36.9	37.2					37.2
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	3.91	8.83	13.4	17.3	20.5	23.1	25.1	26.6	27.9	28.9	29.8	30.5	31.1	31.6	32.1	32.5
51	3.99	9.00	13.7	17.6	20.9	23.6	25.6	27.2	28.5	29.6	30.4	31.2	31.8	32.3	32.8	33.2
52	4.07	9.18	13.9	18.0	21.3	24.0	26.	27.8	29.1	30.2	31.1	31.8	32.5	33.0	33.5	33.9
53	4.15	9.35	14.2	18.3	21.7	24.5	26.6	28.3	29.7	30.8	31.7	32.5	33.2	33.7	34.2	34.7
54	4.22	9.53	14.5	18.6	22.1	24.9	27.2	28.9	30.3	31.4	32.4	33.2	33.9	34.4	34.9	35.4
55	4.30	9.71	14.7	19.0	22.5	25.4	27.7	29.5	30.9	32.1	33.0	33.9	34.6	35.1	35.7	36.1
56	4.38	9.88	15.0	19.3	22.9	25.9	28.2	30.0	31.5	32.7	33.7	34.5	35.2	35.8	36.4	36.8
57	4.46	10.1	15.3	19.7	23.3	26.3	28.7	30.6	32.1	33.3	34.3	35.2	35.9	36.6	37.1	37.6
58	4.54	10.2	15.5	20.0	23.7	26.8	29.3	31.2	32.7	34.0	35.0	35.9	36.6	37.3	37.8	38.3
59	4.61	10.4	15.8	20.4	24.1	27.3	29.8	31.7	33.3	34.6	35.7	36.6	37.3	38.0	38.5	39.0
60	4.69	10.6	16.1	20.7	24.5	27.7	30.3	32.3	33.9	35.2	36.3	37.2	38.0	38.7	39.2	39.8
61	4.77	10.8	16.4	21.1	25.0	28.2	30.8	32.8	34.5	35.8	37.0	37.9	38.7	39.4	40.0	40.5
62	4.85	10.9	16.6	21.4	25.4	28.6	31.3	33.4	35.1	36.5	37.6	38.6	39.4	40.1	40.7	41.2
63	4.93	11.1	16.9	21.8	25.8	29.1	31.9	34.0	35.7	37.1	38.3	39.2	40.1	40.8	41.4	41.9
64	5.01	11.3	17.2	22.1	26.2	29.6	32.4	34.5	36.3	37.7	38.9	39.9	40.8	41.5	42.1	42.7
65	5.08	11.5	17.4	22.4	26.6	30.0	32.9	35.1	36.9	38.3	39.6	40.6	41.5	42.2	42.8	43.4
66	5.16	11.6	17.7	22.8	27.0	30.5	33.4	35.7	37.5	39.0	40.2	41.3	42.1	42.9	43.6	44.1
67	5.24	11.8	18.0	23.1	27.4	30.9	33.9	36.2	38.1	39.6	40.9	41.9	42.8	43.6	44.3	44.9
68	5.32	12.0	18.2	23.5	27.8	31.4	34.4	36.8	38.7	40.2	41.5	42.6	43.5	44.3	45.0	45.6
69	5.40	12.2	18.5	23.8	28.2	31.9	34.9	37.3	39.3	40.8	42.2	43.3	44.2	45.0	45.7	46.3
70	5.48	12.4	18.8	24.2	28.6	32.3	35.4	37.9	39.9	41.5	42.8	43.9	44.9	45.7	46.4	47.1
71	5.55	12.5	19.0	24.5	29.0	32.8	35.9	38.4	40.4	42.1	43.5	44.6	45.6	46.4	47.2	47.8
72	5.63	12.7	19.3	24.9	29.5	33.3	36.4	39.0	41.0	42.7	44.1	45.3	46.3	47.1	47.9	48.5
73	5.71	12.9	19.6	25.2	29.9	33.7	36.9	39.6	41.6	43.3	44.8	46.0	47.0	47.9	48.6	49.3
74	5.79	13.1	19.8	25.6	30.3	34.2	37.4	40.1	42.2	44.0	45.4	46.6	47.7	48.6	49.3	50.0
75	5.87	13.2	20.1	25.9	30.7	34.6	37.9	40.7	42.8	44.6	46.1	47.3	48.4	49.3	50.0	50.7
76	5.94	13.4	20.4	26.2	31.1	35.1	38.4	41.2	43.4	45.2	46.7	48.0	49.1	50.0	50.8	51.5
77	6.02	13.6	20.6	26.6	31.5	35.6	39.0	41.8	44.0	45.8	47.4	48.7	49.7	50.7	51.5	52.2
78	6.10	13.8	20.9	26.9	31.9	36.0	39.5	42.3	44.6	46.5	48.0	49.3	50.4	51.4	52.2	52.9
79	6.18	13.9	21.2	27.3	32.3	36.5	40.0	42.9	45.2	47.1	48.7	50.0	51.1	52.1	52.9	53.7
80	6.26	14.1	21.4	27.6	32.7	37.0	40.5	43.4	45.8	47.7	49.3	50.7	51.8	52.8	53.7	54.4
81	6.34	14.3	21.7	28.0	33.1	37.4	41.0	44.0	46.4	48.3	50.0	51.3	52.5	53.5	54.4	55.1
82	6.41	14.5	22.0	28.3	33.5	37.9	41.5	44.5	46.9	48.9	50.6	52.0	53.2	54.2	55.1	55.9
83	6.49	14.7	22.2	28.7	34.0	38.3	42.0	45.1	47.5	49.6	51.2	52.7	53.9	54.9	55.8	56.6
84	6.57	14.8	22.5	29.0	34.4	38.8	42.5	45.6	48.1	50.2	51.9	53.3	54.6	55.6	56.5	57.3
85	6.65	15.0	22.8	29.4	34.8	39.3	43.0	46.2	48.7	50.8	52.5	54.0	55.3	56.3	57.3	58.1
86	6.73	15.2	23.1	29.7	35.2	39.7	43.5	46.7	49.3	51.4	53.2	54.7	56.0	57.0	58.0	58.8
87	6.80	15.4	23.3	30.0	35.6	40.2	44.0	47.2	49.9	52.0	53.8	55.3	56.6	57.7	58.7	59.5
88	6.88	15.5	23.6	30.4	36.0	40.6	44.5	47.8	50.5	52.6	54.5	56.0	57.3	58.5	59.4	60.3
89	6.96	15.7	23.9	30.7	36.4	41.1	45.0	48.3	51.0	53.3	55.1	56.7	58.0	59.2	60.1	61.0
90	7.04	15.9	24.1	31.1	36.8	41.6	45.5	48.9	51.6	53.9	55.8	57.4	58.7	59.9	60.9	61.7
91	7.12	16.1	24.4	31.4	37.2	42.0	46.0	49.4	52.2	54.5	56.4	58.0	59.4	60.6	61.6	62.5
92	7.20	16.2	24.7	31.8	37.6	42.5	46.5	50.0	52.8	55.1	57.1	58.7	60.1	61.3	62.3	63.2
93	7.27	16.4	24.9	32.1	38.1	43.0	47.1	50.5	53.4	55.7	57.7	59.4	60.8	62.0	63.0	63.9
94	7.35	16.6	25.2	32.5	38.5	43.4	47.6	51.0	54.0	56.3	58.3	60.0	61.5	62.7	63.7	64.7
95	7.43	16.8	25.5	32.8	38.9	43.9	48.1	51.6	54.5	57.0	59.0	60.7	62.1	63.4	64.5	65.4
96	7.51	16.9	25.7	33.1	39.3	44.3	48.6	52.1	55.1	57.6	59.6	61.4	62.8	64.1	65.2	66.1
97	7.59	17.1	26.0	33.5	39.7	44.8	49.1	52.7	55.7	58.2	60.3	62.0	63.5	64.8	65.9	66.9
98	7.67	17.3	26.3	33.8	40.1	45.3	49.6	53.2	56.3	58.8	60.9	62.7	64.2	65.5	66.6	67.6
99	7.74	17.5	26.5	34.2	40.5	45.7	50.1	53.8	56.9	59.4	61.5	63.4	64.9	66.2	67.3	68.3
100	7.82	17.7	26.8	34.5	40.9	46.2	50.6	54.3	57.4	60.0	62.2	64.0	65.6	66.9	68.1	69.1
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
50	32.8	33.2	33.5	33.7	34.0	34.6	35.4	36.0	36.5	36.9	37.2					37.2
51	33.6	33.9	34.2	34.5	34.7	35.4	36.2	36.8	37.3	37.7	38.1					38.1
52	34.3	34.7	35.0	35.2	35.5	36.1	37.0	37.6	38.1	38.5	38.9					39.0
53	35.0	35.4	35.7	36.0	36.2	36.9	37.7	38.4	38.9	39.3	39.7					39.9
54	35.8	36.1	36.5	36.7	37.0	37.7	38.5	39.2	39.7	40.2	40.5					40.8
55	36.5	36.9	37.2	37.5	37.8	38.5	39.3	40.0	40.5	41.0	41.4					41.7
56	37.3	37.6	38.0	38.3	38.5	39.2	40.1	40.8	41.3	41.8	42.2					42.6
57	38.0	38.4	38.7	39.0	39.3	40.0	40.9	41.6	42.2	42.6	43.0					43.5
58	38.7	39.1	39.5	39.8	40.1	40.8	41.7	42.4	43.0	43.4	43.9					44.4
59	39.5	39.9	40.2	40.5	40.8	41.6	42.5	43.2	43.8	44.3	44.7					45.3
60	40.2	40.6	41.0	41.3	41.6	42.4	43.3	44.0	44.6	45.1	45.5	46.2				46.2
61	40.9	41.4	41.7	42.1	42.4	43.1	44.1	44.9	45.4	45.9	46.3	47.0				47.1
62	41.7	42.1	42.5	42.8	43.1	43.9	44.9	45.7	46.3	46.8	47.2	47.9				48.0
63	42.4	42.9	43.2	43.6	43.9	44.7	45.7	46.5	47.1	47.6	48.0	48.7				48.9
64	43.2	43.6	44.0	44.3	44.7	45.5	46.5	47.3	47.9	48.4	48.8	49.6				49.8
65	43.9	44.4	44.8	45.1	45.4	46.3	47.3	48.1	48.7	49.2	49.7	50.4				50.7
66	44.6	45.1	45.5	45.9	46.2	47.1	48.1	48.9	49.6	50.1	50.5	51.3				51.6
67	45.4	45.9	46.3	46.6	47.0	47.8	48.9	49.7	50.4	50.9	51.4	52.1				52.5
68	46.1	46.6	47.0	47.4	47.8	48.6	49.7	50.6	51.2	51.7	52.2	53.0				53.4
69	46.9	47.4	47.8	48.2	48.5	49.4	50.5	51.4	52.0	52.6	53.0	53.8				54.4
70	47.6	48.1	48.5	48.9	49.3	50.2	51.3	52.2	52.9	53.4	53.9	54.6	55.3			55.3
71	48.4	48.9	49.3	49.7	50.1	51.0	52.1	53.0	53.7	54.2	54.7	55.5	56.1			56.2
72	49.1	49.6	50.1	50.5	50.8	51.8	53.0	53.8	54.5	55.1	55.6	56.3	57.0			57.1
73	49.8	50.4	50.8	51.2	51.6	52.6	53.8	54.6	55.3	55.9	56.4	57.2	57.8			58.0
74	50.6	51.1	51.6	52.0	52.4	53.4	54.6	55.5	56.2	56.7	57.2	58.1	58.7			58.9
75	51.3	51.9	52.3	52.8	53.2	54.2	55.4	56.3	57.0	57.6	58.1	58.9	59.6			59.8
76	52.1	52.6	53.1	53.5	53.9	54.9	56.2	57.1	57.8	58.4	58.9	59.8	60.4			60.8
77	52.8	53.4	53.9	54.3	54.7	55.7	57.0	57.9	58.7	59.3	59.8	60.6	61.3			61.7
78	53.6	54.1	54.6	55.1	55.5	56.5	57.8	58.8	59.5	60.1	60.6	61.5	62.1			62.6
79	54.3	54.9	55.4	55.9	56.3	57.3	58.6	59.6	60.3	60.9	61.5	62.3	63.0			63.5
80	55.1	55.6	56.2	56.6	57.0	58.1	59.4	60.4	61.2	61.8	62.3	63.2	63.9			64.4
81	55.8	56.4	56.9	57.4	57.8	58.9	60.2	61.2	62.0	62.6	63.2	64.0	64.7			65.4
82	56.5	57.1	57.7	58.2	58.6	59.7	61.1	62.1	62.8	63.5	64.0	64.9	65.6			66.3
83	57.3	57.9	58.4	58.9	59.4	60.5	61.9	62.9	63.7	64.3	64.9	65.7	66.5			67.2
84	58.0	58.7	59.2	59.7	60.2	61.3	62.7	63.7	64.5	65.2	65.7	66.6	67.3			68.1
85	58.8	59.4	60.0	60.5	60.9	62.1	63.5	64.5	65.3	66.0	66.6	67.5	68.2			69.1
86	59.5	60.2	60.7	61.2	61.7	62.9	64.3	65.4	66.2	66.8	67.4	68.3	69.0			70.0
87	60.3	60.9	61.5	62.0	62.5	63.7	65.1	66.2	67.0	67.7	68.3	69.2	69.9			70.9
88	61.0	61.7	62.3	62.8	63.3	64.5	65.9	67.0	67.8	68.5	69.1	70.0	70.8			71.8
89	61.8	62.4	63.0	63.6	64.0	65.3	66.8	67.8	68.7	69.4	70.0	70.9	71.6			72.8
90	62.5	63.2	63.8	64.3	64.8	66.1	67.6	68.7	69.5	70.2	70.8	71.8	72.5	73.7		73.7
91	63.2	63.9	64.6	65.1	65.6	66.9	68.4	69.5	70.4	71.1	71.7	72.6	73.4	74.6		74.6
92	64.0	64.7	65.3	65.9	66.4	67.7	69.2	70.3	71.2	71.9	72.5	73.5	74.2	75.4		75.5
93	64.7	65.5	66.1	66.7	67.2	68.5	70.0	71.2	72.0	72.8	73.4	74.3	75.1	76.3		76.5
94	65.5	66.2	66.9	67.4	67.9	69.3	70.8	72.0	72.9	73.6	74.2	75.2	76.0	77.2		77.4
95	66.2	67.0	67.6	68.2	68.7	70.0	71.7	72.8	73.7	74.5	75.1	76.1	76.9	78.1		78.3
96	67.0	67.7	68.4	69.0	69.5	70.8	72.5	73.7	74.6	75.3	75.9	76.9	77.7	79.0		79.3
97	67.7	68.5	69.1	69.7	70.3	71.6	73.3	74.5	75.4	76.2	76.8	77.8	78.6	79.8		80.2
98	68.5	69.2	69.9	70.5	71.1	72.4	74.1	75.3	76.3	77.0	77.6	78.7	79.5	80.7		81.1
99	69.2	70.0	70.7	71.3	71.9	73.2	74.9	76.2	77.1	77.9	78.5	79.5	80.3	81.6		82.0
100	70.0	70.7	71.4	72.1	72.6	74.0	75.8	77.0	77.9	78.7	79.4	80.4	81.2	82.5		83.0
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	7.82	17.7	26.8	34.5	40.9	46.2	50.6	54.3	57.4	60.0	62.2	64.0	65.6	66.9	68.1	69.1
102	7.98	18.0	27.3	35.2	41.7	47.1	51.6	55.4	58.6	61.2	63.5	65.3	66.9	68.3	69.5	70.5
104	8.13	18.4	27.9	35.9	42.6	48.0	52.6	56.5	59.7	62.5	64.7	66.7	68.3	69.7	70.9	72.0
106	8.29	18.7	28.4	36.6	43.4	49.0	53.6	57.6	60.9	63.7	66.0	68.0	69.7	71.1	72.4	73.5
108	8.45	19.1	28.9	37.3	44.2	49.9	54.6	58.6	62.0	64.9	67.3	69.3	71.1	72.5	73.8	74.9
110	8.60	19.4	29.5	38.0	45.0	50.8	55.7	59.7	63.2	66.1	68.6	70.7	72.4	73.9	75.3	76.4
112	8.76	19.8	30.0	38.7	45.8	51.7	56.7	60.8	64.3	67.3	69.8	72.0	73.8	75.3	76.7	77.9
114	8.92	20.1	30.6	39.4	46.6	52.7	57.7	61.9	65.5	68.5	71.1	73.3	75.2	76.8	78.1	79.3
116	9.07	20.5	31.1	40.1	47.5	53.6	58.7	63.0	66.6	69.7	72.4	74.6	76.5	78.2	79.6	80.8
118	9.23	20.8	31.6	40.7	48.3	54.5	59.7	64.1	67.8	70.9	73.7	75.9	77.9	79.6	81.0	82.3
120	9.39	21.2	32.2	41.4	49.1	55.4	60.7	65.2	68.9	72.1	74.9	77.3	79.2	81.0	82.4	83.7
122	9.54	21.5	32.7	42.1	49.9	56.4	61.7	66.2	70.1	73.3	76.2	78.6	80.6	82.4	83.9	85.2
124	9.70	21.9	33.2	42.8	50.7	57.3	62.7	67.3	71.2	74.5	77.4	79.9	82.0	83.8	85.3	86.7
126	9.86	22.2	33.8	43.5	51.6	58.2	63.7	68.4	72.4	75.7	78.7	81.2	83.3	85.1	86.7	88.1
128	10.0	22.6	34.3	44.2	52.4	59.1	64.8	69.5	73.5	76.9	79.9	82.5	84.7	86.5	88.2	89.6
130	10.2	22.9	34.8	44.9	53.2	60.0	65.8	70.6	74.7	78.1	81.2	83.8	86.0	87.9	89.6	91.0
132	10.3	23.3	35.4	45.6	54.0	61.0	66.8	71.7	75.8	79.4	82.4	85.1	87.4	89.3	91.0	92.5
134	10.5	23.7	35.9	46.3	54.8	61.9	67.8	72.8	77.0	80.6	83.7	86.4	88.7	90.7	92.4	94.0
136	10.6	24.0	36.5	47.0	55.6	62.8	68.8	73.8	78.1	81.8	84.9	87.7	90.1	92.1	93.9	95.4
138	10.8	24.4	37.0	47.7	56.5	63.7	69.8	74.9	79.3	83.0	86.2	89.0	91.4	93.5	95.3	96.9
140	11.0	24.7	37.5	48.3	57.3	64.7	70.8	76.0	80.4	84.2	87.4	90.3	92.8	94.9	96.7	98.3
142	11.1	25.1	38.1	49.0	58.1	65.6	71.8	77.1	81.6	85.4	88.7	91.6	94.1	96.3	98.2	99.8
144	11.3	25.4	38.6	49.7	58.9	66.5	72.9	78.2	82.7	86.6	89.9	92.8	95.4	97.7	99.6	101.2
146	11.4	25.8	39.1	50.4	59.7	67.4	73.9	79.3	83.9	87.8	91.2	94.1	96.8	99.1	101.0	102.7
148	11.6	26.1	39.7	51.1	60.6	68.4	74.9	80.4	85.0	89.0	92.4	95.4	98.1	100.4	102.4	104.1
150	11.7	26.5	40.2	51.8	61.4	69.3	75.9	81.4	86.2	90.2	93.7	96.7	99.4	101.8	103.8	105.6
152	11.9	26.8	40.7	52.5	62.2	70.2	76.9	82.5	87.3	91.4	94.9	98.0	100.7	103.2	105.3	107.0
154	12.0	27.2	41.3	53.2	63.0	71.1	77.9	83.6	88.5	92.6	96.2	99.3	102.1	104.5	106.7	108.5
156	12.2	27.5	41.8	53.9	63.8	72.1	78.9	84.7	89.6	93.8	97.4	100.6	103.4	105.9	108.1	109.9
158	12.4	27.9	42.3	54.6	64.6	73.0	79.9	85.8	90.8	95.0	98.7	101.9	104.7	107.3	109.5	111.4
160	12.5	28.2	42.9	55.2	65.5	73.9	80.9	86.9	91.9	96.2	99.9	103.2	106.0	108.6	110.9	112.8
162	12.7	28.6	43.4	55.9	66.3	74.8	82.0	88.0	93.1	97.4	101.1	104.5	107.4	110.0	112.3	114.3
164	12.8	28.9	44.0	56.6	67.1	75.8	83.0	89.0	94.2	98.6	102.4	105.7	108.7	111.3	113.7	115.7
166	13.0	29.3	44.5	57.3	67.9	76.7	84.0	90.1	95.4	99.8	103.6	107.0	110.0	112.7	115.1	117.2
168	13.1	29.7	45.0	58.0	68.7	77.6	85.0	91.2	96.5	101.0	104.9	108.3	111.4	114.1	116.5	118.6
170	13.3	30.0	45.6	58.7	69.6	78.5	86.0	92.3	97.7	102.2	106.1	109.6	112.7	115.4	117.9	120.1
172	13.5	30.4	46.1	59.4	70.4	79.5	87.0	93.4	98.8	103.4	107.4	110.9	114.0	116.8	119.2	121.5
174	13.6	30.7	46.6	60.1	71.2	80.4	88.0	94.5	100.0	104.6	108.6	112.2	115.3	118.1	120.6	122.9
176	13.8	31.1	47.2	60.8	72.0	81.3	89.0	95.6	101.1	105.8	109.9	113.5	116.7	119.5	122.0	124.3
178	13.9	31.4	47.7	61.5	72.8	82.2	90.1	96.6	102.3	107.0	111.1	114.8	118.0	120.8	123.4	125.7
180	14.1	31.8	48.2	62.2	73.6	83.1	91.1	97.7	103.4	108.2	112.4	116.1	119.3	122.2	124.8	127.1
182	14.2	32.1	48.8	62.8	74.5	84.1	92.1	98.8	104.6	109.4	113.6	117.3	120.6	123.6	126.2	128.5
184	14.4	32.5	49.3	63.5	75.3	85.0	93.1	99.9	105.7	110.6	114.9	118.6	122.0	124.9	127.6	130.0
186	14.5	32.8	49.9	64.2	76.1	85.9	94.1	101.0	106.9	111.8	116.1	119.9	123.3	126.3	129.0	131.4
188	14.7	33.2	50.4	64.9	76.9	86.8	95.1	102.1	108.0	113.0	117.4	121.2	124.6	127.6	130.3	132.8
190	14.9	33.5	50.9	65.6	77.7	87.8	96.1	103.2	109.2	114.2	118.6	122.5	125.9	129.0	131.7	134.2
192	15.0	33.9	51.5	66.3	78.6	88.7	97.1	104.2	110.3	115.4	119.9	123.8	127.3	130.3	133.1	135.6
194	15.2	34.2	52.0	67.0	79.4	89.6	98.1	105.3	111.4	116.6	121.1	125.1	128.6	131.7	134.5	137.0
196	15.3	34.6	52.5	67.7	80.2	90.5	99.2	106.4	112.6	117.8	122.4	126.4	129.9	133.1	135.9	138.4
198	15.5	34.9	53.1	68.4	81.0	91.5	100.2	107.5	113.7	119.0	123.6	127.7	131.2	134.4	137.3	139.8
200	15.6	35.3	53.6	69.1	81.8	92.4	101.2	108.6	114.9	120.2	124.9	129.0	132.6	135.8	138.7	141.3
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
100	70.0	70.7	71.4	72.1	72.6	74.0	75.8	77.0	77.9	78.7	79.4	80.4	81.2	82.5		83.0
102	71.5	72.3	73.0	73.6	74.2	75.6	77.4	78.7	79.6	80.4	81.1	82.1	83.0	84.2		84.8
104	72.9	73.8	74.5	75.2	75.8	77.2	79.0	80.3	81.3	82.1	82.8	83.9	84.7	86.0		86.7
106	74.4	75.3	76.0	76.7	77.3	78.8	80.7	82.0	83.0	83.8	84.5	85.6	86.5	87.8		88.6
108	75.9	76.8	77.6	78.3	78.9	80.4	82.3	83.7	84.7	85.5	86.2	87.3	88.2	89.5		90.5
110	77.4	78.3	79.1	79.8	80.5	82.0	84.0	85.3	86.4	87.2	87.9	89.1	90.0	91.3	92.3	92.3
112	78.9	79.8	80.6	81.4	82.0	83.6	85.6	87.0	88.1	88.9	89.7	90.8	91.7	93.1	94.1	94.2
114	80.4	81.3	82.2	82.9	83.6	85.2	87.3	88.7	89.8	90.7	91.4	92.6	93.5	94.9	95.9	96.1
116	81.9	82.8	83.7	84.5	85.1	86.9	88.9	90.4	91.5	92.4	93.1	94.3	95.2	96.6	97.7	98.0
118	83.4	84.4	85.2	86.0	86.7	88.5	90.5	92.0	93.2	94.1	94.8	96.0	97.0	98.4	99.5	99.9
120	84.9	85.9	86.8	87.6	88.3	90.1	92.2	93.7	94.9	95.8	96.6	97.8	98.7	100.2	101.3	101.7
122	86.4	87.4	88.3	89.1	89.8	91.7	93.8	95.4	96.6	97.5	98.3	99.5	100.5	102.0	103.1	103.6
124	87.8	88.9	89.8	90.7	91.4	93.3	95.5	97.1	98.3	99.2	100.0	101.3	102.3	103.7	104.9	105.5
126	89.3	90.4	91.4	92.2	93.0	94.9	97.2	98.8	100.0	101.0	101.8	103.0	104.0	105.5	106.7	107.4
128	90.8	91.9	92.9	93.8	94.5	96.5	98.8	100.4	101.7	102.7	103.5	104.8	105.8	107.3	108.4	109.3
130	92.3	93.4	94.4	95.3	96.1	98.1	100.5	102.1	103.4	104.4	105.2	106.5	107.6	109.1	110.2	111.2
132	93.8	94.9	95.9	96.9	97.7	99.7	102.1	103.8	105.1	106.1	107.0	108.3	109.3	110.9	112.0	113.1
134	95.3	96.4	97.5	98.4	99.2	101.3	103.8	105.5	106.8	107.8	108.7	110.0	111.1	112.7	113.8	115.0
136	96.8	98.0	99.0	100.0	100.8	102.9	105.4	107.2	108.5	109.6	110.4	111.8	112.9	114.4	115.6	116.8
138	98.2	99.5	100.5	101.5	102.4	104.5	107.1	108.9	110.2	111.3	112.2	113.6	114.6	116.2	117.4	118.7
140	99.7	101.0	102.1	103.1	103.9	106.1	108.7	110.6	111.9	113.0	113.9	115.3	116.4	118.0	119.2	120.6
142	101.2	102.5	103.6	104.6	105.5	107.7	110.4	112.2	113.6	114.7	115.6	117.1	118.2	119.8	121.0	122.5
144	102.7	104.0	105.1	106.2	107.1	109.3	112.0	113.9	115.3	116.5	117.4	118.8	119.9	121.6	122.8	124.4
146	104.2	105.5	106.7	107.7	108.6	111.0	113.7	115.6	117.1	118.2	119.1	120.6	121.7	123.4	124.6	126.3
148	105.7	107.0	108.2	109.2	110.2	112.6	115.4	117.3	118.8	119.9	120.9	122.4	123.5	125.2	126.5	128.2
150	107.1	108.5	109.7	110.8	111.8	114.2	117.0	119.0	120.5	121.7	122.6	124.1	125.3	127.0	128.3	130.1
152	108.6	110.0	111.2	112.3	113.3	115.8	118.7	120.7	122.2	123.4	124.4	125.9	127.0	128.8	130.1	132.0
154	110.1	111.5	112.8	113.9	114.9	117.4	120.3	122.4	123.9	125.1	126.1	127.6	128.8	130.6	131.9	133.9
156	111.6	113.0	114.3	115.4	116.5	119.0	122.0	124.1	125.6	126.9	127.9	129.4	130.6	132.4	133.7	135.9
158	113.1	114.5	115.8	117.0	118.0	120.6	123.6	125.8	127.3	128.6	129.6	131.2	132.4	134.2	135.5	137.8
160	114.5	116.0	117.3	118.5	119.6	122.2	125.3	127.5	129.1	130.3	131.3	132.9	134.2	136.0	137.3	139.7
162	116.0	117.5	118.9	120.1	121.2	123.8	127.0	129.2	130.8	132.1	133.1	134.7	135.9	137.8	139.1	141.6
164	117.5	119.0	120.4	121.6	122.7	125.4	128.6	130.8	132.5	133.8	134.8	136.5	137.7	139.6	140.9	143.5
166	119.0	120.5	121.9	123.2	124.3	127.0	130.3	132.5	134.2	135.5	136.6	138.2	139.5	141.4	142.7	145.4
168	120.4	122.0	123.4	124.7	125.8	128.6	131.9	134.2	135.9	137.3	138.3	140.0	141.3	143.2	144.6	147.3
170	121.9	123.5	125.0	126.3	127.4	130.3	133.6	135.9	137.7	139.0	140.1	141.8	143.1	145.0	146.4	149.2
172	123.4	125.0	126.5	127.8	129.0	131.9	135.3	137.6	139.4	140.7	141.8	143.6	144.9	146.8	148.2	151.1
174	124.8	126.5	128.0	129.3	130.5	133.5	136.9	139.3	141.1	142.5	143.6	145.3	146.6	148.6	150.0	153.0
176	126.3	128.0	129.5	130.9	132.1	135.1	138.6	141.0	142.8	144.2	145.3	147.1	148.4	150.4	151.8	155.0
178	127.8	129.5	131.0	132.4	133.7	136.7	140.2	142.7	144.5	146.0	147.1	148.9	150.2	152.2	153.6	156.9
180	129.3	131.0	132.6	134.0	135.2	138.3	141.9	144.4	146.3	147.7	148.9	150.7	152.0	154.0	155.5	158.8
182	130.7	132.5	134.1	135.5	136.8	139.9	143.6	146.1	148.0	149.4	150.6	152.4	153.8	155.8	157.3	160.7
184	132.1	134.0	135.6	137.0	138.3	141.5	145.2	147.8	149.7	151.2	152.4	154.2	155.6	157.6	159.1	162.6
186	133.6	135.5	137.1	138.6	139.9	143.1	146.9	149.5	151.4	152.9	154.1	156.0	157.4	159.4	160.9	164.5
188	135.0	137.0	138.6	140.1	141.5	144.7	148.6	151.2	153.1	154.7	155.9	157.8	159.2	161.2	162.7	166.5
190	136.4	138.5	140.2	141.7	143.0	146.3	150.2	152.9	154.9	156.4	157.6	159.5	161.0	163.0	164.6	168.4
192	137.9	139.9	141.7	143.2	144.6	147.9	151.9	154.6	156.6	158.1	159.4	161.3	162.8	164.9	166.4	170.3
194	139.3	141.4	143.2	144.7	146.1	149.5	153.5	156.3	158.3	159.9	161.2	163.1	164.5	166.7	168.2	172.2
196	140.7	142.9	144.7	146.3	147.7	151.1	155.2	158.0	160.0	161.6	162.9	164.9	166.3	168.5	170.0	174.1
198	142.2	144.3	146.2	147.8	149.2	152.8	156.9	159.7	161.8	163.4	164.7	166.7	168.1	170.3	171.9	176.1
200	143.6	145.8	147.7	149.3	150.8	154.4	158.5	161.4	163.5	165.1	166.4	168.4	169.9	172.1	173.7	178.0
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

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N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	15.6	35.3	53.6	69.1	81.8	92.4	101.2	108.6	114.9	120.2	124.9	129.0	132.6	135.8	138.7	141.3
202	15.8	35.7	54.1	69.8	82.6	93.3	102.2	109.7	116.0	121.4	126.1	130.2	133.9	137.1	140.0	142.7
204	16.0	36.0	54.7	70.4	83.5	94.2	103.2	110.8	117.2	122.6	127.4	131.5	135.2	138.5	141.4	144.1
206	16.1	36.4	55.2	71.1	84.3	95.2	104.2	111.8	118.3	123.8	128.6	132.8	136.5	139.8	142.8	145.5
208	16.3	36.7	55.8	71.8	85.1	96.1	105.2	112.9	119.5	125.0	129.9	134.1	137.9	141.2	144.2	146.9
210	16.4	37.1	56.3	72.5	85.9	97.0	106.2	114.0	120.6	126.2	131.1	135.4	139.2	142.6	145.6	148.3
212	16.6	37.4	56.8	73.2	86.7	97.9	107.3	115.1	121.8	127.4	132.4	136.7	140.5	143.9	147.0	149.7
214	16.7	37.8	57.4	73.9	87.6	98.9	108.3	116.2	122.9	128.6	133.6	138.0	141.8	145.3	148.4	151.1
216	16.9	38.1	57.9	74.6	88.4	99.8	109.3	117.3	124.1	129.8	134.9	139.3	143.2	146.6	149.8	152.6
218	17.1	38.5	58.4	75.3	89.2	100.7	110.3	118.4	125.2	131.1	136.1	140.6	144.5	148.0	151.1	154.0
220	17.2	38.8	59.0	76.0	90.0	101.6	111.3	119.5	126.4	132.3	137.4	141.8	145.8	149.4	152.5	155.4
222	17.4	39.2	59.5	76.7	90.8	102.5	112.3	120.5	127.5	133.5	138.6	143.1	147.1	150.7	153.9	156.8
224	17.5	39.5	60.0	77.3	91.6	103.5	113.3	121.6	128.7	134.7	139.9	144.4	148.5	152.1	155.3	158.2
226	17.7	39.9	60.6	78.0	92.5	104.4	114.3	122.7	129.8	135.9	141.1	145.7	149.8	153.4	156.7	159.6
228	17.8	40.2	61.1	78.7	93.3	105.3	115.3	123.8	131.0	137.1	142.4	147.0	151.1	154.8	158.1	161.0
230	18.0	40.6	61.6	79.4	94.1	106.2	116.4	124.9	132.1	138.3	143.6	148.3	152.4	156.1	159.5	162.4
232	18.1	40.9	62.2	80.1	94.9	107.2	117.4	126.0	133.3	139.5	144.9	149.6	153.8	157.5	160.8	163.9
234	18.3	41.3	62.7	80.8	95.7	108.1	118.4	127.1	134.4	140.7	146.1	150.9	155.1	158.9	162.2	165.3
236	18.5	41.7	63.3	81.5	96.6	109.0	119.4	128.1	135.6	141.9	147.4	152.2	156.4	160.2	163.6	166.7
238	18.6	42.0	63.8	82.2	97.4	109.9	120.4	129.2	136.7	143.1	148.6	153.5	157.7	161.6	165.0	168.1
240	18.8	42.4	64.3	82.9	98.2	110.9	121.4	130.3	137.9	144.3	149.8	154.7	159.1	162.9	166.4	169.5
242	18.9	42.7	64.9	83.6	99.0	111.8	122.4	131.4	139.0	145.5	151.1	156.0	160.4	164.3	167.8	170.9
244	19.1	43.1	65.4	84.3	99.8	112.7	123.4	132.5	140.2	146.7	152.3	157.3	161.7	165.6	169.2	172.3
246	19.2	43.4	65.9	84.9	100.6	113.6	124.5	133.6	141.3	147.9	153.6	158.6	163.0	167.0	170.6	173.7
248	19.4	43.8	66.5	85.6	101.5	114.6	125.5	134.7	142.5	149.1	154.8	159.9	164.4	168.4	171.9	175.2
250	19.6	44.1	67.0	86.3	102.3	115.5	126.5	135.7	143.6	150.3	156.1	161.2	165.7	169.7	173.3	176.6
	.078	.178	.268	.346	.408	.462	.506	.544	.574	.600	.624	.644	.662	.680	.694	.706
300	23.5	53.0	80.4	103.6	122.7	138.6	151.8	162.9	172.3	180.3	187.3	193.4	198.8	203.7	208.0	211.9
	.078	.176	.268	.346	.410	.462	.506	.542	.576	.602	.624	.646	.664	.678	.694	.706
350	27.4	61.8	93.8	120.9	143.2	161.7	177.1	190.0	201.1	210.4	218.5	225.7	232.0	237.6	242.7	247.2
	.078	.176	.268	.344	.410	.462	.506	.544	.574	.602	.624	.644	.662	.680	.692	.706
400	31.3	70.6	107.2	138.1	163.7	184.8	202.4	217.2	229.8	240.5	249.7	257.9	265.1	271.6	277.3	282.5
	.078	.176	.268	.346	.408	.462	.506	.542	.574	.600	.626	.644	.664	.678	.694	.706
450	35.2	79.4	120.6	155.4	184.1	207.9	227.7	244.3	258.5	270.5	281.0	290.1	298.3	305.5	312.0	317.8
	.078	.178	.268	.346	.410	.462	.506	.544	.574	.602	.624	.646	.662	.678	.692	.708
500	39.1	88.3	134.0	172.7	204.6	231.0	253.0	271.5	287.2	300.6	312.2	322.4	331.4	339.4	346.6	353.2
	.078	.176	.268	.345	.409	.462	.505	.543	.575	.601	.624	.645	.663	.679	.694	.706
600	46.9	105.9	160.8	207.2	245.5	277.2	303.5	325.8	344.7	360.7	374.6	386.9	397.7	407.3	416.0	423.8
	.079	.177	.268	.345	.409	.461	.506	.543	.574	.601	.625	.644	.663	.679	.693	.706
700	54.8	123.6	187.6	241.7	286.4	323.3	354.1	380.1	402.1	420.8	437.1	451.3	464.0	475.2	485.3	494.4
	.078	.176	.268	.345	.409	.462	.506	.543	.575	.601	.624	.645	.662	.679	.693	.706
800	62.6	141.2	214.4	276.2	327.3	369.5	404.7	434.4	459.6	480.9	499.5	515.8	530.2	543.1	554.6	565.0
	.078	.177	.268	.346	.409	.462	.506	.543	.574	.601	.624	.645	.663	.679	.694	.707
900	70.4	158.9	241.2	310.8	368.2	415.7	455.3	488.7	517.0	541.0	561.9	580.3	596.5	611.0	624.0	635.7
	.078	.176	.268	.345	.409	.462	.506	.543	.575	.602	.625	.645	.663	.679	.693	.706
1000	78.2	176.5	268.0	345.3	409.1	461.9	505.9	543.0	574.5	601.2	624.4	644.8	662.8	678.9	693.3	706.3
	.078	.177	.268	.345	.410	.462	.506	.543	.574	.601	.624	.644	.663	.679	.693	.706
1100	86.0	194.2	294.8	379.8	450.1	508.1	556.5	597.3	631.9	661.3	686.8	709.2	729.1	746.8	762.6	776.9
	.0782	.1765	.2680	.3453	.4091	.4619	.5059	.5430	.5745	.6012	.6244	.6448	.6628	.6789	.6933	.7063
N	2	3	4	5	6	7	8	9 T	10	11	12	13	14	15	16	17
	k															

N	k																
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
200	143.6	145.8	147.7	149.3	150.8	154.4	158.5	161.4	163.5	165.1	166.4	168.4	169.9	172.1	173.7	178.0	200
202	145.1	147.2	149.2	150.9	152.3	156.0	160.2	163.1	165.2	166.9	168.2	170.2	171.7	173.9	175.5	179.9	202
204	146.5	148.7	150.7	152.4	153.9	157.6	161.9	164.8	166.9	168.6	169.9	172.0	173.5	175.7	177.3	181.8	204
206	147.9	150.1	152.2	154.0	155.5	159.2	163.5	166.5	168.7	170.4	171.7	173.8	175.3	177.6	179.2	183.8	206
208	149.4	151.6	153.6	155.5	157.0	160.8	165.2	168.2	170.4	172.1	173.5	175.6	177.1	179.4	181.0	185.7	208
210	150.8	153.1	155.1	157.0	158.6	162.4	166.8	169.9	172.1	173.9	175.2	177.3	178.9	181.2	182.8	187.6	210
212	152.2	154.5	156.6	158.5	160.1	164.0	168.5	171.6	173.9	175.6	177.0	179.1	180.7	183.0	184.7	189.5	212
214	153.7	156.0	158.1	160.0	161.7	165.6	170.2	173.3	175.6	177.3	178.8	180.9	182.5	184.8	186.5	191.5	214
216	155.1	157.4	159.6	161.5	163.2	167.2	171.8	175.0	177.3	179.1	180.5	182.7	184.3	186.6	188.3	193.4	216
218	156.5	158.9	161.0	163.0	164.8	168.8	173.5	176.7	179.0	180.8	182.3	184.5	186.1	188.5	190.2	195.3	218
220	158.0	160.3	162.5	164.5	166.3	170.4	175.2	178.4	180.8	182.6	184.0	186.3	187.9	190.3	192.0	197.2	220
222	159.4	161.8	164.0	166.0	167.8	172.0	176.8	180.1	182.5	184.3	185.8	188.0	189.7	192.1	193.8	199.2	222
224	160.9	163.3	165.5	167.5	169.4	173.6	178.5	181.8	184.2	186.1	187.6	189.8	191.5	193.9	195.6	201.1	224
226	162.3	164.7	166.9	169.0	170.9	175.2	180.1	183.5	186.0	187.8	189.3	191.6	193.3	195.7	197.5	203.0	226
228	163.7	166.2	168.4	170.5	172.4	176.8	181.8	185.2	187.7	189.6	191.1	193.4	195.1	197.6	199.3	205.0	228
230	165.2	167.6	169.9	172.0	173.9	178.4	183.5	186.9	189.4	191.3	192.9	195.2	196.9	199.4	201.2	206.9	230
232	166.6	169.1	171.4	173.5	175.4	180.0	185.1	188.6	191.1	193.1	194.6	197.0	198.7	201.2	203.0	208.8	232
234	168.0	170.5	172.8	175.0	176.9	181.6	186.8	190.3	192.9	194.8	196.4	198.8	200.5	203.0	204.8	210.8	234
236	169.5	172.0	174.3	176.5	178.4	183.2	188.4	192.0	194.6	196.6	198.2	200.6	202.3	204.9	206.7	212.7	236
238	170.9	173.5	175.8	178.0	179.9	184.8	190.1	193.7	196.3	198.3	199.9	202.4	204.1	206.7	208.5	214.6	238
240	172.3	174.9	177.3	179.4	181.4	186.4	191.8	195.4	198.1	200.1	201.7	204.1	205.9	208.5	210.3	216.6	240
242	173.8	176.4	178.8	180.9	183.0	188.0	193.4	197.1	199.8	201.8	203.5	205.9	207.7	210.3	212.2	218.5	242
244	175.2	177.8	180.2	182.4	184.5	189.6	195.1	198.8	201.5	203.6	205.2	207.7	209.5	212.2	214.0	220.4	244
246	176.7	179.3	181.7	183.9	186.0	191.2	196.7	200.5	203.3	205.3	207.0	209.5	211.4	214.0	215.8	222.4	246
248	178.1	180.8	183.2	185.4	187.5	192.8	198.4	202.2	205.0	207.1	208.8	211.3	213.2	215.8	217.7	224.3	248
250	179.5	182.2	184.7	186.9	189.0	194.4	200.1	203.9	206.7	208.9	210.5	213.1	215.0	217.6	219.5	226.2	250
	.718	.730	.738	.748	.756	.778	.828	.852	.866	.876	.886	.898	.906	.916	.922	.972	
300	215.4	218.7	221.6	224.3	226.8	233.3	241.5	246.5	250.0	252.7	254.8	258.0	260.3	263.4	265.6	274.8	300
	.718	.728	.738	.748	.756	.776	.806	.848	.866	.878	.888	.900	.908	.920	.926	.976	
350	251.3	255.1	258.5	261.7	264.6	272.1	281.8	288.9	293.3	296.6	299.2	303.0	305.7	309.4	311.9	323.6	350
	.718	.728	.740	.748	.756	.778	.804	.826	.866	.880	.890	.902	.912	.922	.930	.978	
400	287.2	291.5	295.5	299.1	302.4	311.0	322.0	330.2	336.6	340.6	343.7	348.1	351.3	355.5	358.4	372.5	400
	.718	.730	.738	.748	.756	.778	.806	.826	.842	.878	.888	.904	.912	.926	.932	.982	
450	323.1	328.0	332.4	336.5	340.2	349.9	362.3	371.5	378.7	384.5	388.1	393.3	396.9	401.8	405.0	421.6	450
	.718	.728	.738	.748	.756	.778	.804	.826	.842	.854	.888	.904	.916	.926	.934	.982	
500	359.0	364.4	369.3	373.9	378.0	388.8	402.5	412.8	420.8	427.2	432.5	438.5	442.7	448.1	451.7	470.7	500
	.719	.729	.739	.747	.756	.777	.805	.825	.841	.855	.865	.905	.915	.929	.937	.986	
600	430.9	437.3	443.2	448.6	453.6	466.5	483.0	495.3	504.9	512.7	519.0	529.0	534.2	541.0	545.4	569.3	600
	.718	.729	.739	.748	.756	.778	.805	.826	.842	.854	.865	.881	.916	.931	.938	.989	
700	502.7	510.2	517.1	523.4	529.2	544.3	563.5	577.9	589.1	598.1	605.5	617.1	625.8	634.1	639.2	668.2	700
	.718	.729	.738	.748	.756	.777	.805	.825	.841	.854	.865	.882	.894	.931	.941	.990	
800	574.5	583.1	590.9	598.2	604.8	622.0	644.0	660.4	673.2	683.5	692.0	705.3	715.2	727.2	733.3	767.2	800
	.718	.729	.739	.747	.756	.778	.805	.826	.842	.855	.865	.882	.894	.932	.941	.993	
900	646.3	656.0	664.8	672.9	680.4	699.8	724.5	743.0	757.4	769.0	778.5	793.5	804.6	820.4	827.4	866.5	900
	.718	.728	.739	.748	.756	.778	.805	.825	.841	.854	.866	.881	.894	.912	.942	.993	
1000	718.1	728.8	738.7	747.7	756.0	777.6	805.0	825.5	841.5	854.4	865.1	881.6	894.0	911.6	921.6	965.8	1000
	.718	.729	.738	.748	.756	.777	.805	.826	.842	.855	.865	.882	.894	.914	.944	.992	
1100	789.9	801.7	812.5	822.5	831.6	855.3	885.5	908.1	925.7	939.9	951.6	969.8	983.4	1003.	1016.	1065.	1100
	.7181	.7288	.7387	.7477	.7560	.7776	.8050	.8255	.8415	.8544	.8651	.8816	.8940	.9116	.9235		
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	k																

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.144															
3	.237	.437														
4	.332	.632	.841													
5	.415	.833	1.12	1.32												
6	.498	1.04	1.41	1.67	1.86											
7	.581	1.24	1.71	2.03	2.27	2.44										
8	.665	1.45	2.01	2.40	2.68	2.89	3.06									
9	.748	1.65	2.31	2.77	3.10	3.35	3.55	3.71								
10	.831	1.84	2.61	3.15	3.53	3.82	4.04	4.23	4.38							
11	.914	2.02	2.91	3.53	3.96	4.29	4.55	4.75	4.92	5.07						
12	.997	2.21	3.22	3.91	4.40	4.77	5.06	5.29	5.48	5.64	5.78					
13	1.08	2.39	3.52	4.29	4.84	5.25	5.57	5.83	6.04	6.21	6.37	6.50				
14	1.16	2.57	3.82	4.67	5.28	5.74	6.09	6.37	6.60	6.80	6.96	7.11	7.24			
15	1.25	2.76	4.12	5.05	5.73	6.23	6.62	6.92	7.17	7.38	7.57	7.72	7.86	7.99		
16	1.33	2.94	4.42	5.44	6.17	6.72	7.14	7.48	7.75	7.98	8.17	8.34	8.49	8.63	8.75	
17	1.41	3.13	4.70	5.82	6.62	7.22	7.67	8.03	8.33	8.58	8.79	8.97	9.13	9.27	9.40	9.52
18	1.50	3.31	4.98	6.20	7.07	7.71	8.21	8.60	8.91	9.18	9.40	9.60	9.77	9.92	10.1	10.2
19	1.58	3.49	5.25	6.58	7.51	8.21	8.74	9.16	9.50	9.78	10.0	10.2	10.4	10.6	10.7	10.9
20	1.66	3.68	5.53	6.96	7.96	8.71	9.28	9.73	10.1	10.4	10.6	10.9	11.1	11.2	11.4	11.5
21	1.74	3.86	5.81	7.34	8.41	9.20	9.81	10.3	10.7	11.0	11.3	11.5	11.7	11.9	12.1	12.2
22	1.83	4.04	6.08	7.72	8.85	9.70	10.4	10.9	11.3	11.6	11.9	12.2	12.4	12.6	12.7	12.9
23	1.91	4.23	6.36	8.10	9.30	10.2	10.9	11.4	11.9	12.2	12.5	12.8	13.0	13.2	13.4	13.6
24	1.99	4.41	6.64	8.48	9.75	10.7	11.4	12.0	12.5	12.9	13.2	13.4	13.7	13.9	14.1	14.3
25	2.08	4.60	6.91	8.85	10.2	11.2	12.0	12.6	13.1	13.5	13.8	14.1	14.4	14.6	14.8	14.9
26	2.16	4.78	7.19	9.21	10.6	11.7	12.5	13.2	13.7	14.1	14.5	14.8	15.0	15.2	15.5	15.6
27	2.24	4.96	7.46	9.56	11.1	12.2	13.1	13.7	14.3	14.7	15.1	15.4	15.7	15.9	16.1	16.3
28	2.33	5.15	7.74	9.91	11.5	12.7	13.6	14.3	14.9	15.3	15.7	16.1	16.4	16.6	16.8	17.0
29	2.41	5.33	8.02	10.3	12.0	13.2	14.1	14.9	15.5	16.0	16.4	16.7	17.0	17.3	17.5	17.7
30	2.49	5.52	8.29	10.6	12.4	13.7	14.7	15.5	16.1	16.6	17.0	17.4	17.7	18.0	18.2	18.4
31	2.58	5.70	8.57	11.0	12.8	14.2	15.2	16.0	16.7	17.2	17.7	18.1	18.4	18.7	18.9	19.1
32	2.66	5.88	8.85	11.3	13.3	14.7	15.8	16.6	17.3	17.9	18.3	18.7	19.1	19.4	19.6	19.9
33	2.74	6.07	9.12	11.7	13.7	15.2	16.3	17.2	17.9	18.5	19.0	19.4	19.7	20.0	20.3	20.6
34	2.82	6.25	9.40	12.0	14.2	15.7	16.9	17.8	18.5	19.1	19.6	20.1	20.4	20.7	21.0	21.3
35	2.91	6.43	9.68	12.4	14.6	16.2	17.4	18.4	19.1	19.8	20.3	20.7	21.1	21.4	21.7	22.0
36	2.99	6.62	9.95	12.7	15.0	16.7	17.9	18.9	19.7	20.4	20.9	21.4	21.8	22.1	22.4	22.7
37	3.07	6.80	10.2	13.1	15.5	17.2	18.5	19.5	20.3	21.0	21.6	22.1	22.5	22.8	23.1	23.4
38	3.16	6.99	10.5	13.5	15.9	17.7	19.0	20.1	21.0	21.7	22.2	22.7	23.2	23.5	23.8	24.1
39	3.24	7.17	10.8	13.8	16.3	18.2	19.6	20.7	21.6	22.3	22.9	23.4	23.8	24.2	24.6	24.8
40	3.32	7.35	11.1	14.2	16.7	18.6	20.1	21.3	22.2	22.9	23.6	24.1	24.5	24.9	25.3	25.6
41	3.41	7.54	11.3	14.5	17.1	19.1	20.6	21.8	22.8	23.6	24.2	24.8	25.2	25.6	26.0	26.3
42	3.49	7.72	11.6	14.9	17.6	19.6	21.2	22.4	23.4	24.2	24.9	25.4	25.9	26.3	26.7	27.0
43	3.57	7.91	11.9	15.2	18.0	20.1	21.7	23.0	24.0	24.8	25.5	26.1	26.6	27.0	27.4	27.7
44	3.65	8.09	12.2	15.6	18.4	20.6	22.3	23.6	24.6	25.5	26.2	26.8	27.3	27.7	28.1	28.5
45	3.74	8.27	12.4	15.9	18.8	21.1	22.8	24.1	25.2	26.1	26.8	27.5	28.0	28.4	28.8	29.2
46	3.82	8.46	12.7	16.3	19.2	21.6	23.3	24.7	25.8	26.7	27.5	28.1	28.7	29.1	29.5	29.9
47	3.90	8.64	13.0	16.6	19.6	22.1	23.9	25.3	26.4	27.4	28.2	28.8	29.4	29.8	30.3	30.6
48	3.99	8.83	13.3	17.0	20.1	22.6	24.4	25.9	27.1	28.0	28.8	29.5	30.1	30.5	31.0	31.4
49	4.07	9.01	13.5	17.4	20.5	23.1	24.9	26.4	27.7	28.7	29.5	30.2	30.7	31.3	31.7	32.1
50	4.15	9.19	13.8	17.7	20.9	23.5	25.5	27.0	28.3	29.3	30.1	30.8	31.4	32.0	32.4	32.8
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
1																.0091	1
2																.144	2
3																.437	3
4																.841	4
5																1.32	5
6																1.86	6
7																2.44	7
8																3.06	8
9																3.71	9
10																4.38	10
11																5.07	11
12																5.78	12
13																6.50	13
14																7.24	14
15																7.99	15
16																8.75	16
17																9.52	17
18	10.3															10.3	18
19	11.0	11.1														11.1	19
20	11.7	11.8	11.9													11.9	20
21	12.3	12.5	12.6	12.7												12.7	21
22	13.0	13.2	13.3	13.4	13.5											13.5	22
23	13.7	13.8	14.0	14.1	14.2											14.3	23
24	14.4	14.5	14.7	14.8	14.9											15.1	24
25	15.1	15.3	15.4	15.5	15.6	15.9										15.9	25
26	15.8	16.0	16.1	16.2	16.4	16.7										16.8	26
27	16.5	16.7	16.8	17.0	17.1	17.4										17.6	27
28	17.2	17.4	17.5	17.7	17.8	18.1										18.4	28
29	17.9	18.1	18.3	18.4	18.5	18.9										19.3	29
30	18.6	18.8	19.0	19.1	19.3	19.6	20.1									20.1	30
31	19.3	19.5	19.7	19.9	20.0	20.4	20.9									21.0	31
32	20.1	20.3	20.4	20.6	20.7	21.1	21.6									21.8	32
33	20.8	21.0	21.2	21.3	21.5	21.9	22.4									22.7	33
34	21.5	21.7	21.9	22.1	22.2	22.6	23.2									23.5	34
35	22.2	22.4	22.6	22.8	23.0	23.4	24.0	24.4								24.4	35
36	22.9	23.2	23.4	23.5	23.7	24.1	24.7	25.2								25.3	36
37	23.7	23.9	24.1	24.3	24.5	24.9	25.5	26.0								26.1	37
38	24.4	24.6	24.8	25.0	25.2	25.7	26.3	26.8								27.0	38
39	25.1	25.3	25.6	25.8	26.0	26.4	27.1	27.5								27.9	39
40	25.8	26.1	26.3	26.5	26.7	27.2	27.8	28.3	28.7							28.7	40
41	26.6	26.8	27.0	27.3	27.5	28.0	28.6	29.1	29.5							29.6	41
42	27.3	27.6	27.8	28.0	28.2	28.7	29.4	29.9	30.3							30.5	42
43	28.0	28.3	28.5	28.8	29.0	29.5	30.2	30.7	31.1							31.4	43
44	28.8	29.0	29.3	29.5	29.7	30.3	31.0	31.5	32.0							32.3	44
45	29.5	29.8	30.0	30.3	30.5	31.0	31.7	32.3	32.8	33.1						33.1	45
46	30.2	30.5	30.8	31.0	31.2	31.8	32.5	33.1	33.6	34.0						34.0	46
47	31.0	31.3	31.5	31.8	32.0	32.6	33.3	33.9	34.4	34.8						34.9	47
48	31.7	32.0	32.3	32.5	32.8	33.4	34.1	34.7	35.2	35.6						35.8	48
49	32.4	32.7	33.0	33.3	33.5	34.1	34.9	35.5	36.0	36.4						36.7	49
50	33.2	33.5	33.8	34.0	34.3	34.9	35.7	36.3	36.8	37.2	37.6					37.6	50
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	4.15	9.19	13.8	17.7	20.9	23.5	25.5	27.0	28.3	29.3	30.1	30.8	31.4	32.0	32.4	32.8
51	4.24	9.38	14.1	18.1	21.3	24.0	26.0	27.6	28.9	29.9	30.8	31.5	32.1	32.7	33.1	33.5
52	4.32	9.56	14.4	18.4	21.7	24.5	26.5	28.2	29.5	30.6	31.4	32.2	32.8	33.4	33.9	34.3
53	4.40	9.74	14.7	18.8	22.1	24.9	27.1	28.7	30.1	31.2	32.1	32.9	33.5	34.1	34.6	35.0
54	4.49	9.93	14.9	19.1	22.6	25.4	27.6	29.3	30.7	31.8	32.8	33.5	34.2	34.8	35.3	35.7
55	4.57	10.1	15.2	19.5	23.0	25.9	28.1	29.9	31.3	32.5	33.4	34.2	34.9	35.5	36.0	36.5
56	4.65	10.3	15.5	19.8	23.4	26.3	28.7	30.5	31.9	33.1	34.1	34.9	35.6	36.2	36.7	37.2
57	4.73	10.5	15.8	20.2	23.8	26.8	29.2	31.0	32.5	33.7	34.7	35.6	36.3	36.9	37.5	37.9
58	4.82	10.7	16.0	20.5	24.2	27.3	29.7	31.6	33.1	34.4	35.4	36.3	37.0	37.6	38.2	38.7
59	4.90	10.8	16.3	20.9	24.7	27.8	30.3	32.2	33.7	35.0	36.1	36.9	37.7	38.3	38.9	39.4
60	4.98	11.0	16.6	21.2	25.1	28.2	30.8	32.8	34.3	35.6	36.7	37.6	38.4	39.1	39.6	40.1
61	5.07	11.2	16.9	21.6	25.5	28.7	31.3	33.3	34.9	36.3	37.4	38.3	39.1	39.8	40.4	40.9
62	5.15	11.4	17.1	22.0	25.9	29.2	31.9	33.9	35.6	36.9	38.0	39.0	39.8	40.5	41.1	41.6
63	5.23	11.6	17.4	22.3	26.3	29.6	32.4	34.5	36.2	37.5	38.7	39.7	40.5	41.2	41.8	42.3
64	5.32	11.8	17.7	22.7	26.7	30.1	32.9	35.0	36.8	38.2	39.4	40.3	41.2	41.9	42.5	43.1
65	5.40	12.0	18.0	23.0	27.2	30.6	33.4	35.6	37.4	38.8	40.0	41.0	41.9	42.6	43.2	43.8
66	5.48	12.1	18.2	23.4	27.6	31.1	33.9	36.2	38.0	39.4	40.7	41.7	42.6	43.3	44.0	44.5
67	5.57	12.3	18.5	23.7	28.0	31.5	34.5	36.7	38.6	40.1	41.3	42.4	43.3	44.0	44.7	45.3
68	5.65	12.5	18.8	24.1	28.4	32.0	35.0	37.3	39.2	40.7	42.0	43.1	44.0	44.7	45.4	46.0
69	5.73	12.7	19.1	24.4	28.8	32.5	35.5	37.9	39.8	41.3	42.6	43.7	44.7	45.5	46.1	46.8
70	5.81	12.9	19.4	24.8	29.3	32.9	36.0	38.4	40.4	42.0	43.3	44.4	45.4	46.2	46.9	47.5
71	5.90	13.1	19.6	25.1	29.7	33.4	36.5	39.0	41.0	42.6	44.0	45.1	46.1	46.9	47.6	48.2
72	5.98	13.2	19.9	25.5	30.1	33.9	37.0	39.6	41.6	43.2	44.6	45.8	46.8	47.6	48.3	49.0
73	6.06	13.4	20.2	25.8	30.5	34.3	37.5	40.1	42.2	43.9	45.3	46.5	47.5	48.3	49.1	49.7
74	6.15	13.6	20.5	26.2	30.9	34.8	38.1	40.7	42.8	44.5	45.9	47.1	48.1	49.0	49.8	50.4
75	6.23	13.8	20.7	26.6	31.3	35.3	38.6	41.3	43.4	45.1	46.6	47.8	48.8	49.7	50.5	51.2
76	6.31	14.0	21.0	26.9	31.8	35.8	39.1	41.8	44.0	45.8	47.2	48.5	49.5	50.4	51.2	51.9
77	6.40	14.2	21.3	27.3	32.2	36.2	39.6	42.4	44.6	46.4	47.9	49.2	50.2	51.2	52.0	52.7
78	6.48	14.3	21.6	27.6	32.6	36.7	40.1	42.9	45.2	47.0	48.6	49.8	50.9	51.9	52.7	53.4
79	6.56	14.5	21.8	28.0	33.0	37.2	40.6	43.5	45.8	47.6	49.2	50.5	51.6	52.6	53.4	54.1
80	6.65	14.7	22.1	28.3	33.4	37.6	41.1	44.1	46.4	48.3	49.9	51.2	52.3	53.3	54.1	54.9
81	6.73	14.9	22.4	28.7	33.8	38.1	41.6	44.6	47.0	48.9	50.5	51.9	53.0	54.0	54.9	55.6
82	6.81	15.1	22.7	29.0	34.3	38.6	42.2	45.2	47.6	49.5	51.2	52.5	53.7	54.7	55.6	56.4
83	6.89	15.3	22.9	29.4	34.7	39.0	42.7	45.7	48.2	50.2	51.8	53.2	54.4	55.4	56.3	57.1
84	6.98	15.4	23.2	29.7	35.1	39.5	43.2	46.3	48.8	50.8	52.5	53.9	55.1	56.1	57.0	57.8
85	7.06	15.6	23.5	30.1	35.5	40.0	43.7	46.8	49.3	51.4	53.1	54.6	55.8	56.9	57.8	58.6
86	7.14	15.8	23.8	30.5	35.9	40.5	44.2	47.4	49.9	52.0	53.8	55.3	56.5	57.6	58.5	59.3
87	7.23	16.0	24.1	30.8	36.4	40.9	44.7	47.9	50.5	52.7	54.4	55.9	57.2	58.3	59.2	60.0
88	7.31	16.2	24.3	31.2	36.8	41.4	45.2	48.5	51.1	53.3	55.1	56.6	57.9	59.0	60.0	60.8
89	7.39	16.4	24.6	31.5	37.2	41.9	45.8	49.0	51.7	53.9	55.7	57.3	58.6	59.7	60.7	61.5
90	7.48	16.5	24.9	31.9	37.6	42.3	46.3	49.6	52.3	54.5	56.4	58.0	59.3	60.4	61.4	62.3
91	7.56	16.7	25.2	32.2	38.0	42.8	46.8	50.1	52.9	55.2	57.0	58.6	60.0	61.1	62.1	63.0
92	7.64	16.9	25.4	32.6	38.4	43.3	47.3	50.7	53.5	55.8	57.7	59.3	60.7	61.8	62.9	63.7
93	7.73	17.1	25.7	32.9	38.9	43.8	47.8	51.2	54.1	56.4	58.3	60.0	61.4	62.6	63.6	64.5
94	7.81	17.3	26.0	33.3	39.3	44.2	48.3	51.8	54.7	57.0	59.0	60.6	62.1	63.3	64.3	65.2
95	7.89	17.5	26.3	33.6	39.7	44.7	48.8	52.3	55.3	57.7	59.6	61.3	62.8	64.0	65.0	66.0
96	7.97	17.7	26.5	34.0	40.1	45.2	49.4	52.9	55.9	58.3	60.3	62.0	63.4	64.7	65.8	66.7
97	8.06	17.8	26.8	34.3	40.5	45.6	49.9	53.4	56.5	58.9	60.9	62.7	64.1	65.4	66.5	67.4
98	8.14	18.0	27.1	34.7	41.0	46.1	50.4	54.0	57.0	59.5	61.6	63.3	64.8	66.1	67.2	68.2
99	8.22	18.2	27.4	35.1	41.4	46.6	50.9	54.5	57.6	60.1	62.2	64.0	65.5	66.8	67.9	68.9
100	8.31	18.4	27.6	35.4	41.8	47.0	51.4	55.1	58.2	60.8	62.9	64.7	66.2	67.5	68.7	69.7
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																									
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
50	33.2	33.5	33.8	34.0	34.3	34.9	35.7	36.3	36.8	37.2	37.6					37.6	50
51	33.9	34.2	34.5	34.8	35.0	35.7	36.5	37.1	37.6	38.0	38.4					38.5	51
52	34.6	35.0	35.3	35.6	35.8	36.5	37.3	37.9	38.4	38.9	39.2					39.4	52
53	35.4	35.7	36.0	36.3	36.6	37.2	38.1	38.7	39.3	39.7	40.1					40.3	53
54	36.1	36.5	36.8	37.1	37.3	38.0	38.9	39.5	40.1	40.5	40.9					41.2	54
55	36.9	37.2	37.5	37.8	38.1	38.8	39.7	40.3	40.9	41.3	41.7					42.1	55
56	37.6	38.0	38.3	38.6	38.9	39.6	40.5	41.2	41.7	42.2	42.6					43.0	56
57	38.3	38.7	39.1	39.4	39.6	40.4	41.3	42.0	42.5	43.0	43.4					43.9	57
58	39.1	39.5	39.8	40.1	40.4	41.2	42.1	42.8	43.3	43.8	44.2					44.8	58
59	39.8	40.2	40.6	40.9	41.2	41.9	42.9	43.6	44.2	44.6	45.1					45.7	59
60	40.6	41.0	41.3	41.7	42.0	42.7	43.7	44.4	45.0	45.5	45.9	46.6				46.6	60
61	41.3	41.7	42.1	42.4	42.7	43.5	44.5	45.2	45.8	46.3	46.7	47.4				47.5	61
62	42.1	42.5	42.9	43.2	43.5	44.3	45.3	46.0	46.6	47.1	47.6	48.3				48.4	62
63	42.8	43.2	43.6	44.0	44.3	45.1	46.1	46.9	47.5	48.0	48.4	49.1				49.3	63
64	43.6	44.0	44.4	44.7	45.1	45.9	46.9	47.7	48.3	48.8	49.2	50.0				50.2	64
65	44.3	44.7	45.1	45.5	45.8	46.7	47.7	48.5	49.1	49.6	50.1	50.8				51.1	65
66	45.0	45.5	45.9	46.3	46.6	47.4	48.5	49.3	49.9	50.5	50.9	51.7				52.0	66
67	45.8	46.3	46.7	47.0	47.4	48.2	49.3	50.1	50.8	51.3	51.8	52.5				53.0	67
68	46.5	47.0	47.4	47.8	48.2	49.0	50.1	51.0	51.6	52.1	52.6	53.4				53.9	68
69	47.3	47.8	48.2	48.6	48.9	49.8	50.9	51.8	52.4	53.0	53.5	54.2				54.8	69
70	48.0	48.5	49.0	49.3	49.7	50.6	51.7	52.6	53.3	53.8	54.3	55.1	55.7			55.7	70
71	48.8	49.3	49.7	50.1	50.5	51.4	52.6	53.4	54.1	54.7	55.1	55.9	56.6			56.6	71
72	49.5	50.0	50.5	50.9	51.3	52.2	53.4	54.2	54.9	55.5	56.0	56.8	57.4			57.5	72
73	50.3	50.8	51.2	51.7	52.0	53.0	54.2	55.1	55.8	56.3	56.8	57.6	58.3			58.5	73
74	51.0	51.5	52.0	52.4	52.8	53.8	55.0	55.9	56.6	57.2	57.7	58.5	59.2			59.4	74
75	51.8	52.3	52.8	53.2	53.6	54.6	55.8	56.7	57.4	58.0	58.5	59.4	60.0			60.3	75
76	52.5	53.1	53.5	54.0	54.4	55.4	56.6	57.5	58.3	58.9	59.4	60.2	60.9			61.2	76
77	53.3	53.8	54.3	54.8	55.2	56.2	57.4	58.4	59.1	59.7	60.2	61.1	61.7			62.1	77
78	54.0	54.6	55.1	55.5	55.9	57.0	58.2	59.2	59.9	60.6	61.1	61.9	62.6			63.1	78
79	54.8	55.3	55.8	56.3	56.7	57.8	59.1	60.0	60.8	61.4	61.9	62.8	63.5			64.0	79
80	55.5	56.1	56.6	57.1	57.5	58.6	59.9	60.8	61.6	62.2	62.8	63.6	64.3			64.9	80
81	56.3	56.9	57.4	57.9	58.3	59.4	60.7	61.7	62.4	63.1	63.6	64.5	65.2			65.8	81
82	57.0	57.6	58.1	58.6	59.1	60.2	61.5	62.5	63.3	63.9	64.5	65.4	66.1			66.8	82
83	57.8	58.4	58.9	59.4	59.8	61.0	62.3	63.3	64.1	64.8	65.3	66.2	66.9			67.7	83
84	58.5	59.1	59.7	60.2	60.6	61.8	63.1	64.2	65.0	65.6	66.2	67.1	67.8			68.6	84
85	59.3	59.9	60.5	61.0	61.4	62.6	64.0	65.0	65.8	66.5	67.0	67.9	68.7			69.6	85
86	60.0	60.7	61.2	61.7	62.2	63.4	64.8	65.8	66.6	67.3	67.9	68.8	69.5			70.5	86
87	60.8	61.4	62.0	62.5	63.0	64.1	65.6	66.7	67.5	68.2	68.7	69.7	70.4			71.4	87
88	61.5	62.2	62.8	63.3	63.8	64.9	66.4	67.5	68.3	69.0	69.6	70.5	71.3			72.3	88
89	62.3	62.9	63.5	64.1	64.5	65.7	67.2	68.3	69.2	69.9	70.4	71.4	72.1			73.3	89
90	63.0	63.7	64.3	64.8	65.3	66.6	68.1	69.2	70.0	70.7	71.3	72.3	73.0	74.2		74.2	90
91	63.8	64.5	65.1	65.6	66.1	67.4	68.9	70.0	70.9	71.6	72.2	73.1	73.9	75.1		75.1	91
92	64.5	65.2	65.8	66.4	66.9	68.2	69.7	70.8	71.7	72.4	73.0	74.0	74.8	76.0		76.1	92
93	65.3	66.0	66.6	67.2	67.7	69.0	70.5	71.7	72.5	73.3	73.9	74.9	75.6	76.8		77.0	93
94	66.0	66.7	67.4	67.9	68.5	69.8	71.3	72.5	73.4	74.1	74.7	75.7	76.5	77.7		77.9	94
95	66.8	67.5	68.1	68.7	69.2	70.6	72.2	73.3	74.2	75.0	75.6	76.6	77.4	78.6		78.9	95
96	67.5	68.3	68.9	69.5	70.0	71.4	73.0	74.2	75.1	75.8	76.4	77.5	78.3	79.5		79.8	96
97	68.3	69.0	69.7	70.3	70.8	72.2	73.8	75.0	75.9	76.7	77.3	78.3	79.1	80.4		80.7	97
98	69.0	69.8	70.5	71.1	71.6	73.0	74.6	75.8	76.8	77.5	78.2	79.2	80.0	81.3		81.7	98
99	69.8	70.5	71.2	71.8	72.4	73.8	75.4	76.7	77.6	78.4	79.0	80.1	80.9	82.1		82.6	99
100	70.5	71.3	72.0	72.6	73.2	74.6	76.3	77.5	78.5	79.2	79.9	80.9	81.8	83.0		83.5	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	k																

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	8.31	18.4	27.6	35.4	41.8	47.0	51.4	55.1	58.2	60.8	62.9	64.7	66.2	67.5	68.7	69.7
102	8.47	18.8	28.2	36.1	42.6	48.0	52.4	56.2	59.4	62.0	64.2	66.0	67.6	69.0	70.1	71.1
104	8.64	19.1	28.8	36.8	43.5	48.9	53.5	57.3	60.5	63.2	65.5	67.4	69.0	70.4	71.6	72.6
106	8.81	19.5	29.3	37.5	44.3	49.9	54.5	58.4	61.7	64.5	66.8	68.7	70.4	71.8	73.0	74.1
108	8.97	19.9	29.9	38.2	45.1	50.8	55.5	59.5	62.9	65.7	68.1	70.0	71.7	73.2	74.5	75.6
110	9.14	20.2	30.4	38.9	46.0	51.8	56.6	60.6	64.0	66.9	69.3	71.4	73.1	74.6	75.9	77.0
112	9.30	20.6	31.0	39.7	46.8	52.7	57.6	61.7	65.2	68.2	70.6	72.7	74.5	76.0	77.4	78.5
114	9.47	21.0	31.5	40.4	47.6	53.6	58.6	62.8	66.4	69.4	71.9	74.1	75.9	77.5	78.8	80.0
116	9.64	21.3	32.1	41.1	48.5	54.6	59.6	63.9	67.5	70.6	73.2	75.4	77.3	78.9	80.3	81.5
118	9.80	21.7	32.6	41.8	49.3	55.5	60.7	65.0	68.7	71.8	74.5	76.7	78.6	80.3	81.7	83.0
120	9.97	22.1	33.2	42.5	50.1	56.5	61.7	66.1	69.9	73.0	75.8	78.1	80.0	81.7	83.2	84.4
122	10.1	22.4	33.7	43.2	51.0	57.4	62.7	67.2	71.0	74.2	77.0	79.4	81.4	83.1	84.6	85.9
124	10.3	22.8	34.3	43.9	51.8	58.3	63.8	68.3	72.2	75.5	78.3	80.7	82.8	84.5	86.0	87.4
126	10.5	23.2	34.8	44.6	52.7	59.3	64.8	69.4	73.4	76.7	79.6	82.0	84.1	85.9	87.5	88.8
128	10.6	23.5	35.4	45.3	53.5	60.2	65.8	70.5	74.5	77.9	80.8	83.4	85.5	87.3	88.9	90.3
130	10.8	23.9	35.9	46.0	54.3	61.2	66.8	71.6	75.7	79.1	82.1	84.7	86.9	88.7	90.4	91.8
132	11.0	24.3	36.5	46.7	55.2	62.1	67.9	72.7	76.8	80.3	83.3	86.0	88.2	90.2	91.8	93.3
134	11.1	24.6	37.0	47.4	56.0	63.0	68.9	73.8	78.0	81.5	84.6	87.3	89.6	91.6	93.3	94.7
136	11.3	25.0	37.6	48.2	56.8	64.0	69.9	74.9	79.2	82.8	85.9	88.6	91.0	93.0	94.7	96.2
138	11.5	25.4	38.2	48.9	57.7	64.9	71.0	76.0	80.3	84.0	87.1	89.9	92.3	94.4	96.1	97.7
140	11.6	25.7	38.7	49.6	58.5	65.9	72.0	77.1	81.5	85.2	88.4	91.2	93.7	95.8	97.6	99.1
142	11.8	26.1	39.3	50.3	59.3	66.8	73.0	78.2	82.7	86.4	89.7	92.5	95.0	97.2	99.0	100.6
144	12.0	26.5	39.8	51.0	60.2	67.7	74.0	79.3	83.8	87.6	90.9	93.8	96.4	98.6	100.4	102.1
146	12.1	26.8	40.4	51.7	61.0	68.7	75.1	80.4	85.0	88.8	92.2	95.1	97.7	100.0	101.9	103.5
148	12.3	27.2	40.9	52.4	61.8	69.6	76.1	81.5	86.2	90.1	93.4	96.4	99.1	101.4	103.3	105.0
150	12.5	27.6	41.5	53.1	62.7	70.6	77.1	82.6	87.3	91.3	94.7	97.7	100.4	102.8	104.7	106.5
152	12.6	27.9	42.0	53.8	63.5	71.5	78.2	83.7	88.5	92.5	96.0	99.0	101.7	104.1	106.2	107.9
154	12.8	28.3	42.6	54.5	64.4	72.5	79.2	84.8	89.7	93.7	97.2	100.3	103.1	105.5	107.6	109.4
156	13.0	28.7	43.1	55.2	65.2	73.4	80.2	85.9	90.8	94.9	98.5	101.6	104.4	106.9	109.0	110.9
158	13.1	29.0	43.7	55.9	66.0	74.3	81.2	87.0	92.0	96.1	99.8	102.9	105.7	108.2	110.5	112.3
160	13.3	29.4	44.2	56.7	66.9	75.3	82.3	88.1	93.1	97.4	101.0	104.2	107.1	109.6	111.9	113.8
162	13.5	29.8	44.8	57.4	67.7	76.2	83.3	89.3	94.3	98.6	102.3	105.5	108.4	111.0	113.3	115.2
164	13.6	30.2	45.3	58.1	68.5	77.2	84.3	90.4	95.5	99.8	103.5	106.8	109.8	112.4	114.7	116.7
166	13.8	30.5	45.9	58.8	69.4	78.1	85.4	91.5	96.6	101.0	104.8	108.1	111.1	113.7	116.1	118.1
168	14.0	30.9	46.4	59.5	70.2	79.0	86.4	92.6	97.8	102.2	106.1	109.5	112.4	115.1	117.5	119.6
170	14.1	31.3	47.0	60.2	71.0	80.0	87.4	93.7	99.0	103.4	107.3	110.8	113.8	116.5	118.9	121.1
172	14.3	31.6	47.6	60.9	71.9	80.9	88.4	94.8	100.1	104.7	108.6	112.1	115.1	117.8	120.3	122.5
174	14.5	32.0	48.1	61.6	72.7	81.9	89.5	95.9	101.3	105.9	109.9	113.4	116.5	119.2	121.7	123.9
176	14.6	32.4	48.7	62.3	73.5	82.8	90.5	97.0	102.5	107.1	111.1	114.7	117.8	120.6	123.1	125.3
178	14.8	32.7	49.2	63.0	74.4	83.7	91.5	98.1	103.6	108.3	112.4	116.0	119.1	122.0	124.5	126.8
180	15.0	33.1	49.8	63.7	75.2	84.7	92.6	99.2	104.8	109.5	113.7	117.3	120.5	123.3	125.9	128.2
182	15.1	33.5	50.3	64.4	76.1	85.6	93.6	100.3	106.0	110.7	114.9	118.6	121.8	124.7	127.3	129.6
184	15.3	33.8	50.9	65.2	76.9	86.6	94.6	101.4	107.1	112.0	116.2	119.9	123.1	126.1	128.7	131.0
186	15.5	34.2	51.4	65.9	77.7	87.5	95.6	102.5	108.3	113.2	117.4	121.2	124.5	127.4	130.1	132.5
188	15.6	34.6	52.0	66.6	78.6	88.4	96.7	103.6	109.4	114.4	118.7	122.5	125.8	128.8	131.5	133.9
190	15.8	34.9	52.5	67.3	79.4	89.4	97.7	104.7	110.6	115.6	120.0	123.8	127.2	130.2	132.9	135.3
192	15.9	35.3	53.1	68.0	80.2	90.3	98.7	105.8	111.8	116.8	121.2	125.1	128.5	131.5	134.3	136.7
194	16.1	35.7	53.6	68.7	81.1	91.3	99.8	106.9	112.9	118.0	122.5	126.4	129.8	132.9	135.7	138.2
196	16.3	36.0	54.2	69.4	81.9	92.2	100.8	108.0	114.1	119.3	123.8	127.7	131.2	134.3	137.1	139.6
198	16.4	36.4	54.7	70.1	82.7	93.2	101.8	109.1	115.3	120.5	125.0	129.0	132.5	135.7	138.5	141.0
200	16.6	36.8	55.3	70.8	83.6	94.1	102.8	110.2	116.4	121.7	126.3	130.3	133.9	137.0	139.9	142.4
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
100	70.5	71.3	72.0	72.6	73.2	74.6	76.3	77.5	78.5	79.2	79.9	80.9	81.8	83.0		83.5	100
102	72.0	72.8	73.5	74.2	74.7	76.2	77.9	79.2	80.2	80.9	81.6	82.7	83.5	84.8		85.4	102
104	73.5	74.4	75.1	75.7	76.3	77.8	79.6	80.9	81.9	82.7	83.3	84.4	85.3	86.6		87.3	104
106	75.0	75.9	76.6	77.3	77.9	79.4	81.2	82.5	83.5	84.4	85.0	86.1	87.0	88.3		89.2	106
108	76.5	77.4	78.2	78.8	79.5	81.0	82.9	84.2	85.2	86.1	86.8	87.9	88.8	90.1		91.1	108
110	78.0	78.9	79.7	80.4	81.0	82.6	84.5	85.9	86.9	87.8	88.5	89.6	90.5	91.9	92.9	92.9	110
112	79.5	80.4	81.2	82.0	82.6	84.2	86.2	87.6	88.6	89.5	90.2	91.4	92.3	93.7	94.7	94.8	112
114	81.0	82.0	82.8	83.5	84.2	85.8	87.8	89.3	90.4	91.2	92.0	93.1	94.1	95.5	96.5	96.7	114
116	82.5	83.5	84.3	85.1	85.8	87.4	89.5	90.9	92.1	92.9	93.7	94.9	95.8	97.2	98.3	98.6	116
118	84.0	85.0	85.9	86.6	87.3	89.1	91.1	92.6	93.8	94.7	95.4	96.6	97.6	99.0	100.1	100.5	118
120	85.5	86.5	87.4	88.2	88.9	90.7	92.8	94.3	95.5	96.4	97.2	98.4	99.3	100.8	101.9	102.4	120
122	87.0	88.1	89.0	89.8	90.5	92.3	94.4	96.0	97.2	98.1	98.9	100.1	101.1	102.6	103.7	104.3	122
124	88.5	89.6	90.5	91.3	92.1	93.9	96.1	97.7	98.9	99.8	100.6	101.9	102.9	104.4	105.5	106.2	124
126	90.0	91.1	92.0	92.9	93.6	95.5	97.8	99.4	100.6	101.6	102.4	103.7	104.6	106.2	107.3	108.1	126
128	91.5	92.6	93.6	94.4	95.2	97.1	99.4	101.1	102.3	103.3	104.1	105.4	106.4	108.0	109.1	109.9	128
130	93.0	94.1	95.1	96.0	96.8	98.7	101.1	102.7	104.0	105.0	105.8	107.2	108.2	109.7	110.9	111.8	130
132	94.5	95.7	96.7	97.6	98.4	100.4	102.7	104.4	105.7	106.7	107.6	108.9	110.0	111.5	112.7	113.7	132
134	96.0	97.2	98.2	99.1	99.9	102.0	104.4	106.1	107.4	108.5	109.3	110.7	111.7	113.3	114.5	115.6	134
136	97.5	98.7	99.7	100.7	101.5	103.6	106.1	107.8	109.2	110.2	111.1	112.4	113.5	115.1	116.3	117.5	136
138	99.0	100.2	101.3	102.2	103.1	105.2	107.7	109.5	110.9	111.9	112.8	114.2	115.3	116.9	118.1	119.4	138
140	100.5	101.7	102.8	103.8	104.7	106.8	109.4	111.2	112.6	113.7	114.6	116.0	117.1	118.7	119.9	121.4	140
142	102.0	103.3	104.4	105.3	106.2	108.4	111.1	112.9	114.3	115.4	116.3	117.7	118.8	120.5	121.7	123.3	142
144	103.5	104.8	105.9	106.9	107.8	110.1	112.7	114.6	116.0	117.1	118.1	119.5	120.6	122.3	123.6	125.2	144
146	105.0	106.3	107.4	108.5	109.4	111.7	114.4	116.3	117.7	118.9	119.8	121.3	122.4	124.1	125.4	127.1	146
148	106.5	107.8	109.0	110.0	111.0	113.3	116.0	118.0	119.5	120.6	121.6	123.0	124.2	125.9	127.2	129.0	148
150	108.0	109.3	110.5	111.6	112.5	114.9	117.7	119.7	121.2	122.3	123.3	124.8	126.0	127.7	129.0	130.9	150
152	109.5	110.8	112.0	113.1	114.1	116.5	119.4	121.4	122.9	124.1	125.1	126.6	127.7	129.5	130.8	132.8	152
154	111.0	112.4	113.6	114.7	115.7	118.1	121.0	123.1	124.6	125.8	126.8	128.3	129.5	131.3	132.6	134.7	154
156	112.5	113.9	115.1	116.2	117.3	119.8	122.7	124.8	126.3	127.6	128.6	130.1	131.3	133.1	134.4	136.6	156
158	113.9	115.4	116.7	117.8	118.8	121.4	124.4	126.5	128.1	129.3	130.3	131.9	133.1	134.9	136.2	138.5	158
160	115.4	116.9	118.2	119.4	120.4	123.0	126.0	128.2	129.8	131.0	132.1	133.7	134.9	136.7	138.1	140.4	160
162	116.9	118.4	119.7	120.9	122.0	124.6	127.7	129.9	131.5	132.8	133.8	135.4	136.7	138.5	139.9	142.4	162
164	118.4	119.9	121.3	122.5	123.6	126.2	129.4	131.6	133.2	134.5	135.6	137.2	138.5	140.3	141.7	144.3	164
166	119.9	121.4	122.8	124.0	125.1	127.8	131.0	133.3	135.0	136.3	137.3	139.0	140.3	142.1	143.5	146.2	166
168	121.4	122.9	124.3	125.6	126.7	129.5	132.7	135.0	136.7	138.0	139.1	140.8	142.0	143.9	145.3	148.1	168
170	122.9	124.5	125.9	127.1	128.3	131.1	134.4	136.7	138.4	139.7	140.8	142.5	143.8	145.7	147.2	150.0	170
172	124.3	126.0	127.4	128.7	129.8	132.7	136.0	138.4	140.1	141.5	142.6	144.3	145.6	147.6	149.0	151.9	172
174	125.8	127.5	128.9	130.2	131.4	134.3	137.7	140.1	141.9	143.2	144.4	146.1	147.4	149.4	150.8	153.9	174
176	127.3	129.0	130.5	131.8	133.0	135.9	139.4	141.8	143.6	145.0	146.1	147.9	149.2	151.2	152.6	155.8	176
178	128.8	130.5	132.0	133.3	134.6	137.5	141.1	143.5	145.3	146.7	147.9	149.7	151.0	153.0	154.5	157.7	178
180	130.3	132.0	133.5	134.9	136.1	139.2	142.7	145.2	147.0	148.5	149.6	151.4	152.8	154.8	156.3	159.6	180
182	131.7	133.5	135.1	136.4	137.7	140.8	144.4	146.9	148.8	150.2	151.4	153.2	154.6	156.6	158.1	161.6	182
184	133.2	135.0	136.6	138.0	139.3	142.4	146.1	148.6	150.5	152.0	153.2	155.0	156.4	158.4	159.9	163.5	184
186	134.6	136.5	138.1	139.5	140.8	144.0	147.7	150.3	152.2	153.7	154.9	156.8	158.2	160.2	161.8	165.4	186
188	136.1	138.0	139.6	141.1	142.4	145.6	149.4	152.0	154.0	155.5	156.7	158.6	160.0	162.1	163.6	167.3	188
190	137.5	139.5	141.2	142.6	144.0	147.2	151.1	153.7	155.7	157.2	158.4	160.3	161.8	163.9	165.4	169.3	190
192	139.0	141.0	142.7	144.2	145.5	148.8	152.7	155.4	157.4	159.0	160.2	162.1	163.6	165.7	167.2	171.2	192
194	140.4	142.5	144.2	145.7	147.1	150.5	154.4	157.1	159.1	160.7	162.0	163.9	165.4	167.5	169.1	173.1	194
196	141.8	143.9	145.7	147.3	148.7	152.1	156.1	158.8	160.9	162.5	163.7	165.7	167.2	169.3	170.9	175.0	196
198	143.3	145.4	147.3	148.8	150.2	153.7	157.7	160.5	162.6	164.2	165.5	167.5	169.0	171.1	172.7	177.0	198
200	144.7	146.9	148.8	150.4	151.8	155.3	159.4	162.3	164.3	166.0	167.3	169.3	170.8	173.0	174.6	178.9	200
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	16.6	36.8	55.3	70.8	83.6	94.1	102.8	110.2	116.4	121.7	126.3	130.3	133.9	137.0	139.9	142.4
202	16.8	37.1	55.8	71.5	84.4	95.0	103.9	111.3	117.6	122.9	127.5	131.6	135.2	138.4	141.3	143.8
204	16.9	37.5	56.4	72.2	85.3	96.0	104.9	112.4	118.8	124.1	128.8	132.9	136.5	139.8	142.7	145.3
206	17.1	37.9	57.0	72.9	86.1	96.9	105.9	113.5	119.9	125.3	130.1	134.2	137.9	141.1	144.1	146.7
208	17.3	38.2	57.5	73.7	86.9	97.9	107.0	114.6	121.1	126.6	131.3	135.5	139.2	142.5	145.5	148.1
210	17.4	38.6	58.1	74.4	87.8	98.8	108.0	115.7	122.3	127.8	132.6	136.8	140.5	143.9	146.9	149.5
212	17.6	39.0	58.6	75.1	88.6	99.7	109.0	116.8	123.4	129.0	133.9	138.1	141.9	145.2	148.3	151.0
214	17.8	39.3	59.2	75.8	89.4	100.7	110.0	117.9	124.6	130.2	135.1	139.4	143.2	146.6	149.7	152.4
216	17.9	39.7	59.7	76.5	90.3	101.6	111.1	119.0	125.7	131.4	136.4	140.7	144.6	148.0	151.1	153.8
218	18.1	40.1	60.3	77.2	91.1	102.6	112.1	120.1	126.9	132.7	137.6	142.0	145.9	149.4	152.4	155.2
220	18.3	40.4	60.8	77.9	91.9	103.5	113.1	121.2	128.1	133.9	138.9	143.3	147.2	150.7	153.8	156.7
222	18.4	40.8	61.4	78.6	92.8	104.4	114.2	122.3	129.2	135.1	140.2	144.6	148.6	152.1	155.2	158.1
224	18.6	41.2	61.9	79.3	93.6	105.4	115.2	123.4	130.4	136.3	141.4	145.9	149.9	153.5	156.6	159.5
226	18.8	41.6	62.5	80.0	94.4	106.3	116.2	124.5	131.6	137.5	142.7	147.2	151.3	154.8	158.0	160.9
228	18.9	41.9	63.0	80.7	95.3	107.3	117.2	125.6	132.7	138.7	144.0	148.5	152.6	156.2	159.4	162.4
230	19.1	42.3	63.6	81.4	96.1	108.2	118.3	126.7	133.9	140.0	145.2	149.8	153.9	157.6	160.8	163.8
232	19.3	42.7	64.1	82.1	97.0	109.1	119.3	127.8	135.1	141.2	146.5	151.1	155.3	158.9	162.2	165.2
234	19.4	43.0	64.7	82.9	97.8	110.1	120.3	128.9	136.2	142.4	147.7	152.5	156.6	160.3	163.6	166.6
236	19.6	43.4	65.2	83.6	98.6	111.0	121.3	130.0	137.4	143.6	149.0	153.8	157.9	161.7	165.0	168.1
238	19.8	43.8	65.8	84.3	99.5	112.0	122.4	131.1	138.6	144.8	150.3	155.1	159.3	163.1	166.4	169.5
240	19.9	44.1	66.4	85.0	100.3	112.9	123.4	132.2	139.7	146.0	151.5	156.4	160.6	164.4	167.8	170.9
242	20.1	44.5	66.9	85.7	101.1	113.9	124.4	133.3	140.9	147.3	152.8	157.7	162.0	165.8	169.2	172.3
244	20.3	44.9	67.5	86.4	102.0	114.8	125.5	134.4	142.0	148.5	154.1	159.0	163.3	167.2	170.6	173.8
246	20.4	45.2	68.0	87.1	102.8	115.7	126.5	135.5	143.2	149.7	155.3	160.3	164.6	168.5	172.0	175.2
248	20.6	45.6	68.6	87.8	103.6	116.7	127.5	136.6	144.4	150.9	156.6	161.6	166.0	169.9	173.4	176.6
250	20.8	46.0	69.1	88.5	104.5	117.6	128.5	137.7	145.5	152.1	157.8	162.9	167.3	171.3	174.8	178.0
	.082	.184	.276	.354	.418	.470	.516	.552	.582	.608	.632	.650	.670	.684	.700	.712
300	24.9	55.2	82.9	106.2	125.4	141.1	154.3	165.3	174.6	182.5	189.4	195.4	200.8	205.5	209.8	213.6
	.084	.182	.278	.354	.418	.472	.514	.550	.584	.610	.632	.652	.668	.686	.700	.712
350	29.1	64.3	96.8	123.9	146.3	164.7	180.0	192.8	203.8	213.0	221.0	228.0	234.2	239.8	244.8	249.2
	.082	.184	.276	.354	.418	.470	.514	.552	.582	.608	.632	.652	.670	.684	.698	.712
400	33.2	73.5	110.6	141.6	167.2	188.2	205.7	220.4	232.9	243.4	252.6	260.6	267.7	274.0	279.7	284.8
	.084	.184	.276	.354	.418	.470	.514	.550	.582	.608	.630	.652	.670	.686	.700	.714
450	37.4	82.7	124.4	159.3	188.1	211.7	231.4	247.9	262.0	273.8	284.1	293.2	301.2	308.3	314.7	320.5
	.082	.184	.276	.354	.416	.470	.514	.552	.582	.608	.632	.650	.668	.686	.700	.712
500	41.5	91.9	138.2	177.0	208.9	235.2	257.1	275.5	291.1	304.2	315.7	325.7	334.6	342.6	349.7	356.1
	.083	.184	.277	.355	.418	.471	.514	.551	.582	.609	.631	.652	.670	.685	.699	.712
600	49.8	110.3	165.9	212.5	250.7	282.3	308.5	330.6	349.3	365.1	378.8	390.9	401.6	411.1	419.6	427.3
	.083	.184	.276	.354	.418	.470	.514	.551	.582	.608	.632	.651	.669	.685	.699	.712
700	58.1	128.7	193.5	247.9	292.5	329.3	359.9	385.7	407.5	425.9	442.0	456.0	468.5	479.6	489.5	498.5
	.084	.184	.277	.354	.418	.471	.515	.550	.582	.609	.631	.652	.669	.685	.699	.712
800	66.5	147.1	221.2	283.3	334.3	376.4	411.4	440.7	465.7	486.8	505.1	521.2	535.4	548.1	559.4	569.7
	.083	.184	.276	.354	.418	.470	.514	.551	.582	.608	.632	.651	.669	.685	.700	.712
900	74.8	165.5	248.8	318.7	376.1	423.4	462.8	495.8	523.9	547.6	568.3	586.3	602.3	616.6	629.4	640.9
	.083	.184	.277	.354	.418	.471	.514	.551	.582	.609	.631	.652	.670	.685	.699	.712
1000	83.1	183.9	276.5	354.1	417.9	470.5	514.2	550.9	582.1	608.5	631.4	651.5	669.3	685.1	699.3	712.1
	.083	.183	.276	.354	.418	.470	.514	.551	.583	.608	.631	.651	.669	.685	.699	.712
1100	91.4	202.2	304.1	389.5	459.7	517.5	565.6	606.0	640.4	669.3	694.5	716.6	736.2	753.6	769.2	783.3
	.0831	.1839	.2765	.3541	.4179	.4705	.5142	.5509	.5821	.6085	.6314	.6515	.6693	.6851	.6993	.7121
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	144.7	146.9	148.8	150.4	151.8	155.3	159.4	162.3	164.3	166.0	167.3	169.3	170.8	173.0	174.6	178.9	200
202	146.2	148.3	150.3	151.9	153.4	156.9	161.1	164.0	166.1	167.7	169.0	171.1	172.6	174.8	176.4	180.8	202
204	147.6	149.8	151.8	153.5	154.9	158.5	162.8	165.7	167.8	169.5	170.8	172.8	174.4	176.6	178.2	182.8	204
206	149.1	151.3	153.3	155.0	156.5	160.1	164.4	167.4	169.5	171.2	172.6	174.6	176.2	178.4	180.1	184.7	206
208	150.5	152.7	154.7	156.6	158.1	161.8	166.1	169.1	171.3	173.0	174.3	176.4	178.0	180.2	181.9	186.6	208
210	152.0	154.2	156.2	158.1	159.6	163.4	167.8	170.8	173.0	174.7	176.1	178.2	179.8	182.1	183.7	188.6	210
212	153.4	155.7	157.7	159.6	161.2	165.0	169.4	172.5	174.7	176.5	177.9	180.0	181.6	183.9	185.6	190.5	212
214	154.9	157.1	159.2	161.1	162.7	166.6	171.1	174.2	176.5	178.2	179.6	181.8	183.4	185.7	187.4	192.4	214
216	156.3	158.6	160.7	162.6	164.3	168.2	172.8	175.9	178.2	180.0	181.4	183.6	185.2	187.5	189.2	194.4	216
218	157.8	160.1	162.2	164.1	165.9	169.8	174.4	177.6	179.9	181.7	183.2	185.4	187.0	189.4	191.1	196.3	218
220	159.2	161.5	163.7	165.6	167.4	171.4	176.1	179.3	181.7	183.5	184.9	187.2	188.8	191.2	192.9	198.2	220
222	160.7	163.0	165.2	167.1	169.0	173.0	177.8	181.0	183.4	185.2	186.7	188.9	190.6	193.0	194.7	200.2	222
224	162.1	164.5	166.6	168.6	170.5	174.7	179.5	182.7	185.1	187.0	188.5	190.7	192.4	194.8	196.6	202.1	224
226	163.6	166.0	168.1	170.1	172.0	176.3	181.1	184.4	186.9	188.8	190.2	192.5	194.2	196.7	198.4	204.0	226
228	165.0	167.4	169.6	171.7	173.5	177.9	182.8	186.2	188.6	190.5	192.0	194.3	196.0	198.5	200.3	206.0	228
230	166.5	168.9	171.1	173.2	175.0	179.5	184.5	187.9	190.4	192.3	193.8	196.1	197.8	200.3	202.1	207.9	230
232	167.9	170.4	172.6	174.7	176.6	181.1	186.1	189.6	192.1	194.0	195.6	197.9	199.6	202.1	203.9	209.8	232
234	169.4	171.8	174.1	176.2	178.1	182.7	187.8	191.3	193.8	195.8	197.3	199.7	201.5	204.0	205.8	211.8	234
236	170.8	173.3	175.6	177.7	179.6	184.3	189.5	193.0	195.6	197.5	199.1	201.5	203.3	205.8	207.6	213.7	236
238	172.2	174.8	177.1	179.2	181.1	185.9	191.1	194.7	197.3	199.3	200.9	203.3	205.1	207.6	209.5	215.7	238
240	173.7	176.2	178.6	180.7	182.7	187.5	192.8	196.4	199.0	201.0	202.6	205.1	206.9	209.5	211.3	217.6	240
242	175.1	177.7	180.0	182.2	184.2	189.1	194.5	198.1	200.8	202.8	204.4	206.9	208.7	211.3	213.1	219.5	242
244	176.6	179.2	181.5	183.7	185.7	190.7	196.1	199.8	202.5	204.6	206.2	208.7	210.5	213.1	215.0	221.5	244
246	178.0	180.6	183.0	185.2	187.2	192.3	197.8	201.5	204.2	206.3	208.0	210.5	212.3	215.0	216.8	223.4	246
248	179.5	182.1	184.5	186.7	188.7	193.9	199.5	203.2	206.0	208.1	209.7	212.3	214.1	216.8	218.7	225.4	248
250	180.9	183.6	186.0	188.2	190.3	195.6	201.1	204.9	207.7	209.8	211.5	214.1	215.9	218.6	220.5	227.3	250
	.724	.734	.744	.754	.760	.782	.834	.856	.870	.880	.888	.900	.908	.918	.924	.974	
300	217.1	220.3	223.2	225.9	228.3	234.7	242.8	247.7	251.2	253.8	255.9	259.1	261.3	264.5	266.7	276.0	300
	.724	.734	.744	.752	.762	.782	.808	.852	.870	.882	.892	.902	.912	.922	.930	.978	
350	253.3	257.0	260.4	263.5	266.4	273.8	283.2	290.3	294.7	297.9	300.5	304.2	306.9	310.6	313.2	324.9	350
	.724	.734	.744	.752	.760	.782	.810	.830	.868	.882	.890	.906	.914	.926	.932	.982	
400	289.5	293.7	297.6	301.1	304.4	312.9	323.7	331.8	338.1	342.0	345.0	349.5	352.6	356.9	359.8	374.0	400
	.724	.734	.744	.754	.762	.782	.810	.830	.844	.882	.892	.906	.916	.926	.934	.984	
450	325.7	330.4	334.8	338.8	342.5	352.0	364.2	373.3	380.3	386.1	389.6	394.8	398.4	403.2	406.5	423.2	450
	.724	.734	.744	.752	.760	.782	.808	.828	.846	.858	.892	.906	.916	.930	.936	.984	
500	361.9	367.1	372.0	376.4	380.5	391.1	404.6	414.7	422.6	429.0	434.2	440.1	444.2	449.7	453.3	472.4	500
	.723	.735	.744	.753	.761	.782	.809	.830	.845	.857	.868	.907	.918	.931	.938	.989	
600	434.2	440.6	446.4	451.7	456.6	469.3	485.5	497.7	507.1	514.7	521.0	530.8	536.0	542.8	547.1	571.3	600
	.724	.734	.744	.753	.761	.783	.810	.829	.845	.858	.869	.885	.919	.933	.941	.990	
700	506.6	514.0	520.8	527.0	532.7	547.6	566.5	580.6	591.6	600.5	607.9	619.3	627.9	636.1	641.2	670.3	700
	.724	.734	.744	.753	.761	.782	.809	.830	.846	.858	.868	.885	.897	.933	.942	.993	
800	579.0	587.4	595.2	602.3	608.8	625.8	647.4	663.6	676.2	686.3	694.7	707.8	717.6	729.4	735.4	769.6	800
	.723	.735	.744	.753	.761	.782	.809	.829	.845	.858	.868	.884	.897	.934	.944	.994	
900	651.3	660.9	669.6	677.6	684.9	704.0	728.3	746.5	760.7	772.1	781.5	796.2	807.3	822.8	829.8	869.0	900
	.724	.734	.744	.753	.761	.782	.809	.830	.845	.858	.869	.885	.896	.915	.944	.996	
1000	723.7	734.3	744.0	752.9	761.0	782.2	809.2	829.5	845.2	857.9	868.4	884.7	896.9	914.3	924.2	968.6	1000
	.724	.734	.744	.752	.762	.782	.810	.829	.845	.858	.868	.885	.897	.917	.948	.994	
1100	796.1	807.7	818.4	828.1	837.2	860.4	890.2	912.4	929.7	943.7	955.2	973.2	986.6	1006.	1019.	1068.	1100
	.7237	.7343	.7440	.7529	.7610	.7822	.8092	.8295	.8452	.8579	.8684	.8847	.8969	.9143	.9260		
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.153															
3	.250	.455														
4	.351	.657	.869													
5	.438	.865	1.16	1.36												
6	.526	1.08	1.45	1.72	1.91											
7	.614	1.29	1.76	2.08	2.32	2.50										
8	.701	1.50	2.07	2.46	2.74	2.96	3.13									
9	.789	1.72	2.38	2.84	3.17	3.42	3.62	3.78								
10	.877	1.91	2.69	3.22	3.61	3.90	4.12	4.31	4.46							
11	.964	2.10	3.00	3.61	4.05	4.38	4.63	4.84	5.01	5.16						
12	1.05	2.29	3.31	4.00	4.49	4.86	5.15	5.38	5.57	5.74	5.88					
13	1.14	2.48	3.62	4.39	4.94	5.35	5.67	5.93	6.14	6.32	6.47	6.61				
14	1.23	2.67	3.93	4.78	5.39	5.85	6.20	6.48	6.71	6.91	7.07	7.22	7.35			
15	1.32	2.86	4.24	5.17	5.84	6.34	6.73	7.04	7.29	7.50	7.68	7.84	7.98	8.11		
16	1.40	3.05	4.55	5.56	6.29	6.84	7.26	7.60	7.87	8.10	8.30	8.47	8.62	8.75	8.88	
17	1.49	3.24	4.83	5.95	6.75	7.34	7.80	8.16	8.46	8.70	8.91	9.10	9.26	9.40	9.53	9.65
18	1.58	3.43	5.12	6.34	7.20	7.85	8.34	8.73	9.05	9.31	9.54	9.73	9.90	10.1	10.2	10.3
19	1.67	3.62	5.40	6.73	7.66	8.35	8.88	9.30	9.64	9.92	10.2	10.4	10.6	10.7	10.9	11.0
20	1.75	3.81	5.69	7.12	8.11	8.85	9.42	9.87	10.2	10.5	10.8	11.0	11.2	11.4	11.5	11.7
21	1.84	4.00	5.97	7.51	8.57	9.36	9.97	10.4	10.8	11.2	11.4	11.7	11.9	12.0	12.2	12.4
22	1.93	4.20	6.25	7.90	9.02	9.87	10.5	11.0	11.4	11.8	12.1	12.3	12.5	12.7	12.9	13.0
23	2.02	4.39	6.54	8.28	9.48	10.4	11.1	11.6	12.0	12.4	12.7	13.0	13.2	13.4	13.6	13.7
24	2.10	4.58	6.82	8.67	9.93	10.9	11.6	12.2	12.6	13.0	13.3	13.6	13.9	14.1	14.3	14.4
25	2.19	4.77	7.11	9.05	10.4	11.4	12.2	12.8	13.2	13.6	14.0	14.3	14.5	14.7	14.9	15.1
26	2.28	4.96	7.39	9.42	10.8	11.9	12.7	13.3	13.9	14.3	14.6	14.9	15.2	15.4	15.6	15.8
27	2.37	5.15	7.68	9.78	11.3	12.4	13.3	13.9	14.5	14.9	15.3	15.6	15.9	16.1	16.3	16.5
28	2.45	5.34	7.96	10.1	11.7	12.9	13.8	14.5	15.1	15.5	15.9	16.3	16.5	16.8	17.0	17.2
29	2.54	5.53	8.24	10.5	12.2	13.4	14.4	15.1	15.7	16.2	16.6	16.9	17.2	17.5	17.7	17.9
30	2.63	5.72	8.53	10.9	12.6	13.9	14.9	15.7	16.3	16.8	17.2	17.6	17.9	18.2	18.4	18.6
31	2.72	5.91	8.81	11.2	13.1	14.4	15.5	16.3	16.9	17.4	17.9	18.3	18.6	18.9	19.1	19.4
32	2.81	6.10	9.10	11.6	13.5	14.9	16.0	16.8	17.5	18.1	18.5	18.9	19.3	19.6	19.8	20.1
33	2.89	6.29	9.38	12.0	14.0	15.4	16.6	17.4	18.1	18.7	19.2	19.6	20.0	20.3	20.5	20.8
34	2.98	6.48	9.67	12.3	14.4	15.9	17.1	18.0	18.8	19.4	19.9	20.3	20.6	21.0	21.2	21.5
35	3.07	6.67	9.95	12.7	14.9	16.4	17.7	18.6	19.4	20.0	20.5	20.9	21.3	21.7	21.9	22.2
36	3.16	6.87	10.2	13.0	15.3	17.0	18.2	19.2	20.0	20.6	21.2	21.6	22.0	22.4	22.7	22.9
37	3.24	7.06	10.5	13.4	15.8	17.5	18.8	19.8	20.6	21.3	21.8	22.3	22.7	23.1	23.4	23.6
38	3.33	7.25	10.8	13.8	16.2	18.0	19.3	20.4	21.2	21.9	22.5	23.0	23.4	23.8	24.1	24.4
39	3.42	7.44	11.1	14.1	16.6	18.5	19.9	20.9	21.8	22.5	23.1	23.7	24.1	24.5	24.8	25.1
40	3.51	7.63	11.4	14.5	17.0	19.0	20.4	21.5	22.4	23.2	23.8	24.3	24.8	25.2	25.5	25.8
41	3.59	7.82	11.7	14.8	17.5	19.5	20.9	22.1	23.1	23.8	24.5	25.0	25.5	25.9	26.2	26.5
42	3.68	8.01	11.9	15.2	17.9	20.0	21.5	22.7	23.7	24.5	25.1	25.7	26.2	26.6	26.9	27.3
43	3.77	8.20	12.2	15.6	18.3	20.5	22.0	23.3	24.3	25.1	25.8	26.4	26.9	27.3	27.7	28.0
44	3.86	8.39	12.5	15.9	18.7	21.0	22.6	23.9	24.9	25.8	26.5	27.1	27.6	28.0	28.4	28.7
45	3.95	8.58	12.8	16.3	19.2	21.5	23.1	24.5	25.5	26.4	27.1	27.7	28.3	28.7	29.1	29.5
46	4.03	8.77	13.1	16.7	19.6	22.0	23.7	25.0	26.1	27.0	27.8	28.4	29.0	29.4	29.8	30.2
47	4.12	8.96	13.4	17.0	20.0	22.4	24.2	25.6	26.8	27.7	28.5	29.1	29.6	30.1	30.5	30.9
48	4.21	9.15	13.6	17.4	20.4	22.9	24.8	26.2	27.4	28.3	29.1	29.8	30.3	30.8	31.3	31.6
49	4.30	9.34	13.9	17.7	20.9	23.4	25.3	26.8	28.0	29.0	29.8	30.5	31.0	31.5	32.0	32.4
50	4.38	9.54	14.2	18.1	21.3	23.9	25.9	27.4	28.6	29.6	30.4	31.1	31.7	32.3	32.7	33.1
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110			
1																	.0101	1
2																	.153	2
3																	.455	3
4																	.869	4
5																	1.36	5
6																	1.91	6
7																	2.50	7
8																	3.13	8
9																	3.78	9
10																	4.46	10
11																	5.16	11
12																	5.88	12
13																	6.61	13
14																	7.35	14
15																	8.11	15
16																	8.88	16
17																	9.65	17
18	10.4																10.4	18
19	11.1	11.2															11.2	19
20	11.8	11.9	12.0														12.0	20
21	12.5	12.6	12.7	12.8													12.8	21
22	13.2	13.3	13.4	13.5	13.7												13.7	22
23	13.9	14.0	14.1	14.3	14.4												14.5	23
24	14.6	14.7	14.9	15.0	15.1												15.3	24
25	15.3	15.4	15.6	15.7	15.8	16.1											16.1	25
26	16.0	16.1	16.3	16.4	16.5	16.9											17.0	26
27	16.7	16.9	17.0	17.1	17.3	17.6											17.8	27
28	17.4	17.6	17.7	17.9	18.0	18.3											18.6	28
29	18.1	18.3	18.5	18.6	18.7	19.1											19.5	29
30	18.8	19.0	19.2	19.3	19.5	19.8	20.3										20.3	30
31	19.6	19.7	19.9	20.1	20.2	20.6	21.1										21.2	31
32	20.3	20.5	20.6	20.8	21.0	21.3	21.9										22.0	32
33	21.0	21.2	21.4	21.5	21.7	22.1	22.6										22.9	33
34	21.7	21.9	22.1	22.3	22.4	22.9	23.4										23.8	34
35	22.4	22.7	22.8	23.0	23.2	23.6	24.2	24.6									24.6	35
36	23.2	23.4	23.6	23.8	23.9	24.4	25.0	25.4									25.5	36
37	23.9	24.1	24.3	24.5	24.7	25.1	25.7	26.2									26.4	37
38	24.6	24.9	25.1	25.3	25.4	25.9	26.5	27.0									27.3	38
39	25.4	25.6	25.8	26.0	26.2	26.7	27.3	27.8									28.1	39
40	26.1	26.3	26.6	26.8	27.0	27.4	28.1	28.6	29.0								29.0	40
41	26.8	27.1	27.3	27.5	27.7	28.2	28.9	29.4	29.8								29.9	41
42	27.6	27.8	28.1	28.3	28.5	29.0	29.7	30.2	30.6								30.8	42
43	28.3	28.6	28.8	29.0	29.2	29.8	30.4	31.0	31.4								31.7	43
44	29.0	29.3	29.6	29.8	30.0	30.5	31.2	31.8	32.2								32.5	44
45	29.8	30.0	30.3	30.5	30.8	31.3	32.0	32.6	33.0	33.4							33.4	45
46	30.5	30.8	31.1	31.3	31.5	32.1	32.8	33.4	33.9	34.3							34.3	46
47	31.2	31.5	31.8	32.1	32.3	32.9	33.6	34.2	34.7	35.1							35.2	47
48	32.0	32.3	32.6	32.8	33.0	33.6	34.4	35.0	35.5	35.9							36.1	48
49	32.7	33.0	33.3	33.6	33.8	34.4	35.2	35.8	36.3	36.7							37.0	49
50	33.5	33.8	34.1	34.3	34.6	35.2	36.0	36.6	37.1	37.5	37.9						37.9	50
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		k=N	N
	k																	

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	4.38	9.54	14.2	18.1	21.3	23.9	25.9	27.4	28.6	29.6	30.4	31.1	31.7	32.3	32.7	33.1
51	4.47	9.73	14.5	18.5	21.7	24.4	26.4	28.0	29.2	30.3	31.1	31.8	32.4	33.0	33.4	33.8
52	4.56	9.92	14.8	18.8	22.1	24.9	26.9	28.5	29.8	30.9	31.8	32.5	33.1	33.7	34.2	34.6
53	4.65	10.1	15.1	19.2	22.6	25.4	27.5	29.1	30.5	31.5	32.4	33.2	33.8	34.4	34.9	35.3
54	4.73	10.3	15.4	19.6	23.0	25.8	28.0	29.7	31.1	32.2	33.1	33.9	34.5	35.1	35.6	36.0
55	4.82	10.5	15.6	19.9	23.4	26.3	28.6	30.3	31.7	32.8	33.8	34.6	35.2	35.8	36.3	36.8
56	4.91	10.7	15.9	20.3	23.9	26.8	29.1	30.9	32.3	33.5	34.4	35.3	35.9	36.5	37.1	37.5
57	5.00	10.9	16.2	20.6	24.3	27.3	29.6	31.4	32.9	34.1	35.1	35.9	36.6	37.3	37.8	38.3
58	5.09	11.1	16.5	21.0	24.7	27.7	30.2	32.0	33.5	34.8	35.8	36.6	37.3	38.0	38.5	39.0
59	5.17	11.3	16.8	21.4	25.1	28.2	30.7	32.6	34.1	35.4	36.4	37.3	38.0	38.7	39.2	39.7
60	5.26	11.4	17.1	21.7	25.6	28.7	31.3	33.2	34.8	36.0	37.1	38.0	38.8	39.4	40.0	40.5
61	5.35	11.6	17.3	22.1	26.0	29.2	31.8	33.8	35.4	36.7	37.8	38.7	39.5	40.1	40.7	41.2
62	5.44	11.8	17.6	22.5	26.4	29.7	32.3	34.3	36.0	37.3	38.4	39.4	40.2	40.8	41.4	42.0
63	5.52	12.0	17.9	22.8	26.8	30.1	32.9	34.9	36.6	38.0	39.1	40.0	40.9	41.6	42.2	42.7
64	5.61	12.2	18.2	23.2	27.3	30.6	33.4	35.5	37.2	38.6	39.8	40.7	41.6	42.3	42.9	43.4
65	5.70	12.4	18.5	23.5	27.7	31.1	33.9	36.1	37.8	39.2	40.4	41.4	42.3	43.0	43.6	44.2
66	5.79	12.6	18.8	23.9	28.1	31.6	34.4	36.6	38.4	39.9	41.1	42.1	43.0	43.7	44.4	44.9
67	5.87	12.8	19.0	24.3	28.5	32.0	35.0	37.2	39.0	40.5	41.8	42.8	43.7	44.4	45.1	45.7
68	5.96	13.0	19.3	24.6	29.0	32.5	35.5	37.8	39.6	41.2	42.4	43.5	44.4	45.1	45.8	46.4
69	6.05	13.2	19.6	25.0	29.4	33.0	36.0	38.4	40.3	41.8	43.1	44.2	45.1	45.9	46.5	47.1
70	6.14	13.3	19.9	25.4	29.8	33.5	36.5	38.9	40.9	42.4	43.7	44.8	45.8	46.6	47.3	47.9
71	6.22	13.5	20.2	25.7	30.2	34.0	37.0	39.5	41.5	43.1	44.4	45.5	46.5	47.3	48.0	48.6
72	6.31	13.7	20.5	26.1	30.7	34.4	37.6	40.1	42.1	43.7	45.1	46.2	47.2	48.0	48.7	49.4
73	6.40	13.9	20.8	26.4	31.1	34.9	38.1	40.7	42.7	44.3	45.7	46.9	47.9	48.7	49.5	50.1
74	6.49	14.1	21.0	26.8	31.5	35.4	38.6	41.2	43.3	45.0	46.4	47.6	48.6	49.4	50.2	50.9
75	6.58	14.3	21.3	27.2	31.9	35.9	39.1	41.8	43.9	45.6	47.1	48.3	49.3	50.2	50.9	51.6
76	6.66	14.5	21.6	27.5	32.4	36.4	39.7	42.4	44.5	46.3	47.7	48.9	50.0	50.9	51.7	52.3
77	6.75	14.7	21.9	27.9	32.8	36.8	40.2	42.9	45.1	46.9	48.4	49.6	50.7	51.6	52.4	53.1
78	6.84	14.9	22.2	28.2	33.2	37.3	40.7	43.5	45.7	47.5	49.0	50.3	51.4	52.3	53.1	53.8
79	6.93	15.1	22.5	28.6	33.6	37.8	41.2	44.1	46.3	48.2	49.7	51.0	52.1	53.0	53.9	54.6
80	7.01	15.3	22.7	29.0	34.1	38.3	41.7	44.6	46.9	48.8	50.4	51.7	52.8	53.8	54.6	55.3
81	7.10	15.4	23.0	29.3	34.5	38.7	42.3	45.2	47.5	49.4	51.0	52.4	53.5	54.5	55.3	56.1
82	7.19	15.6	23.3	29.7	34.9	39.2	42.8	45.8	48.1	50.1	51.7	53.0	54.2	55.2	56.1	56.8
83	7.28	15.8	23.6	30.1	35.4	39.7	43.3	46.3	48.7	50.7	52.3	53.7	54.9	55.9	56.8	57.5
84	7.36	16.0	23.9	30.4	35.8	40.2	43.8	46.9	49.3	51.3	53.0	54.4	55.6	56.6	57.5	58.3
85	7.45	16.2	24.2	30.8	36.2	40.7	44.4	47.4	49.9	52.0	53.7	55.1	56.3	57.3	58.2	59.0
86	7.54	16.4	24.4	31.1	36.6	41.1	44.9	48.0	50.5	52.6	54.3	55.8	57.0	58.1	59.0	59.8
87	7.63	16.6	24.7	31.5	37.1	41.6	45.4	48.6	51.1	53.2	55.0	56.5	57.7	58.8	59.7	60.5
88	7.72	16.8	25.0	31.9	37.5	42.1	45.9	49.1	51.7	53.9	55.6	57.1	58.4	59.5	60.4	61.3
89	7.80	17.0	25.3	32.2	37.9	42.6	46.4	49.7	52.3	54.5	56.3	57.8	59.1	60.2	61.2	62.0
90	7.89	17.2	25.6	32.6	38.3	43.0	47.0	50.2	52.9	55.1	57.0	58.5	59.8	60.9	61.9	62.8
91	7.98	17.4	25.9	33.0	38.8	43.5	47.5	50.8	53.5	55.8	57.6	59.2	60.5	61.7	62.6	63.5
92	8.07	17.5	26.2	33.3	39.2	44.0	48.0	51.4	54.1	56.4	58.3	59.9	61.2	62.4	63.4	64.2
93	8.15	17.7	26.4	33.7	39.6	44.5	48.5	51.9	54.7	57.0	58.9	60.5	61.9	63.1	64.1	65.0
94	8.24	17.9	26.7	34.0	40.0	45.0	49.0	52.5	55.3	57.7	59.6	61.2	62.6	63.8	64.8	65.7
95	8.33	18.1	27.0	34.4	40.5	45.4	49.6	53.0	55.9	58.3	60.2	61.9	63.3	64.5	65.6	66.5
96	8.42	18.3	27.3	34.8	40.9	45.9	50.1	53.6	56.5	58.9	60.9	62.6	64.0	65.2	66.3	67.2
97	8.50	18.5	27.6	35.1	41.3	46.4	50.6	54.1	57.1	59.5	61.6	63.3	64.7	66.0	67.0	68.0
98	8.59	18.7	27.9	35.5	41.7	46.9	51.1	54.7	57.7	60.2	62.2	63.9	65.4	66.7	67.8	68.7
99	8.68	18.9	28.1	35.9	42.2	47.4	51.7	55.3	58.3	60.8	62.9	64.6	66.1	67.4	68.5	69.5
100	8.77	19.1	28.4	36.2	42.6	47.8	52.2	55.8	58.9	61.4	63.5	65.3	66.8	68.1	69.2	70.2
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
50	33.5	33.8	34.1	34.3	34.6	35.2	36.0	36.6	37.1	37.5	37.9					37.9
51	34.2	34.5	34.8	35.1	35.3	36.0	36.8	37.4	37.9	38.4	38.7					38.8
52	35.0	35.3	35.6	35.9	36.1	36.8	37.6	38.2	38.8	39.2	39.6					39.7
53	35.7	36.0	36.3	36.6	36.9	37.5	38.4	39.0	39.6	40.0	40.4					40.6
54	36.4	36.8	37.1	37.4	37.7	38.3	39.2	39.9	40.4	40.8	41.2					41.5
55	37.2	37.5	37.9	38.2	38.4	39.1	40.0	40.7	41.2	41.7	42.1					42.4
56	37.9	38.3	38.6	38.9	39.2	39.9	40.8	41.5	42.0	42.5	42.9					43.3
57	38.7	39.0	39.4	39.7	40.0	40.7	41.6	42.3	42.9	43.3	43.7					44.2
58	39.4	39.8	40.1	40.5	40.7	41.5	42.4	43.1	43.7	44.2	44.6					45.1
59	40.2	40.6	40.9	41.2	41.5	42.3	43.2	43.9	44.5	45.0	45.4					46.0
60	40.9	41.3	41.7	42.0	42.3	43.1	44.0	44.8	45.3	45.8	46.2	46.9				46.9
61	41.7	42.1	42.4	42.8	43.1	43.8	44.8	45.6	46.2	46.7	47.1	47.8				47.9
62	42.4	42.8	43.2	43.5	43.9	44.6	45.6	46.4	47.0	47.5	47.9	48.6				48.8
63	43.2	43.6	44.0	44.3	44.6	45.4	46.4	47.2	47.8	48.3	48.8	49.5				49.7
64	43.9	44.3	44.7	45.1	45.4	46.2	47.3	48.0	48.7	49.2	49.6	50.4				50.6
65	44.7	45.1	45.5	45.9	46.2	47.0	48.1	48.9	49.5	50.0	50.5	51.2				51.5
66	45.4	45.9	46.3	46.6	47.0	47.8	48.9	49.7	50.3	50.8	51.3	52.1				52.4
67	46.2	46.6	47.0	47.4	47.7	48.6	49.7	50.5	51.1	51.7	52.1	52.9				53.4
68	46.9	47.4	47.8	48.2	48.5	49.4	50.5	51.3	52.0	52.5	53.0	53.8				54.3
69	47.7	48.1	48.6	49.0	49.3	50.2	51.3	52.1	52.8	53.4	53.8	54.6				55.2
70	48.4	48.9	49.3	49.7	50.1	51.0	52.1	53.0	53.6	54.2	54.7	55.5	56.1			56.1
71	49.2	49.7	50.1	50.5	50.9	51.8	52.9	53.8	54.5	55.1	55.5	56.3	57.0			57.0
72	49.9	50.4	50.9	51.3	51.6	52.6	53.8	54.6	55.3	55.9	56.4	57.2	57.8			58.0
73	50.7	51.2	51.6	52.1	52.4	53.4	54.6	55.5	56.2	56.7	57.2	58.0	58.7			58.9
74	51.4	51.9	52.4	52.8	53.2	54.2	55.4	56.3	57.0	57.6	58.1	58.9	59.6			59.8
75	52.2	52.7	53.2	53.6	54.0	55.0	56.2	57.1	57.8	58.4	58.9	59.8	60.4			60.7
76	52.9	53.5	54.0	54.4	54.8	55.8	57.0	57.9	58.7	59.3	59.8	60.6	61.3			61.7
77	53.7	54.2	54.7	55.2	55.6	56.6	57.8	58.8	59.5	60.1	60.6	61.5	62.2			62.6
78	54.4	55.0	55.5	55.9	56.3	57.4	58.6	59.6	60.3	61.0	61.5	62.3	63.0			63.5
79	55.2	55.8	56.3	56.7	57.1	58.2	59.5	60.4	61.2	61.8	62.3	63.2	63.9			64.4
80	56.0	56.5	57.0	57.5	57.9	59.0	60.3	61.3	62.0	62.7	63.2	64.1	64.8			65.4
81	56.7	57.3	57.8	58.3	58.7	59.8	61.1	62.1	62.9	63.5	64.0	64.9	65.6			66.3
82	57.5	58.1	58.6	59.1	59.5	60.6	61.9	62.9	63.7	64.4	64.9	65.8	66.5			67.2
83	58.2	58.8	59.4	59.8	60.3	61.4	62.7	63.8	64.6	65.2	65.8	66.7	67.4			68.2
84	59.0	59.6	60.1	60.6	61.1	62.2	63.6	64.6	65.4	66.1	66.6	67.5	68.3			69.1
85	59.7	60.3	60.9	61.4	61.8	63.0	64.4	65.4	66.2	66.9	67.5	68.4	69.1			70.0
86	60.5	61.1	61.7	62.2	62.6	63.8	65.2	66.3	67.1	67.8	68.3	69.3	70.0			70.9
87	61.2	61.9	62.4	63.0	63.4	64.6	66.0	67.1	67.9	68.6	69.2	70.1	70.9			71.9
88	62.0	62.6	63.2	63.7	64.2	65.4	66.9	67.9	68.8	69.5	70.0	71.0	71.7			72.8
89	62.7	63.4	64.0	64.5	65.0	66.2	67.7	68.8	69.6	70.3	70.9	71.9	72.6			73.7
90	63.5	64.2	64.8	65.3	65.8	67.0	68.5	69.6	70.5	71.2	71.8	72.7	73.5	74.7		74.7
91	64.3	64.9	65.5	66.1	66.6	67.8	69.3	70.4	71.3	72.0	72.6	73.6	74.4	75.6		75.6
92	65.0	65.7	66.3	66.9	67.4	68.6	70.1	71.3	72.2	72.9	73.5	74.5	75.2	76.5		76.6
93	65.8	66.5	67.1	67.6	68.1	69.4	71.0	72.1	73.0	73.7	74.3	75.3	76.1	77.3		77.5
94	66.5	67.2	67.9	68.4	68.9	70.2	71.8	73.0	73.8	74.6	75.2	76.2	77.0	78.2		78.4
95	67.3	68.0	68.6	69.2	69.7	71.0	72.6	73.8	74.7	75.4	76.1	77.1	77.9	79.1		79.4
96	68.0	68.8	69.4	70.0	70.5	71.8	73.4	74.6	75.5	76.3	76.9	77.9	78.7	80.0		80.3
97	68.8	69.5	70.2	70.8	71.3	72.6	74.3	75.5	76.4	77.1	77.8	78.8	79.6	80.9		81.2
98	69.5	70.3	71.0	71.6	72.1	73.4	75.1	76.3	77.2	78.0	78.6	79.7	80.5	81.8		82.2
99	70.3	71.1	71.7	72.3	72.9	74.3	75.9	77.1	78.1	78.9	79.5	80.6	81.4	82.7		83.1
100	71.1	71.8	72.5	73.1	73.7	75.1	76.8	78.0	78.9	79.7	80.4	81.4	82.3	83.5		84.1
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	8.77	19.1	28.4	36.2	42.6	47.8	52.2	55.8	58.9	61.4	63.5	65.3	66.8	68.1	69.2	70.2
102	8.94	19.5	29.0	36.9	43.4	48.8	53.2	56.9	60.1	62.7	64.8	66.7	68.2	69.5	70.7	71.7
104	9.12	19.8	29.6	37.7	44.3	49.7	54.3	58.1	61.3	63.9	66.1	68.0	69.6	71.0	72.1	73.2
106	9.29	20.2	30.1	38.4	45.1	50.7	55.3	59.2	62.5	65.2	67.4	69.4	71.0	72.4	73.6	74.7
108	9.47	20.6	30.7	39.1	46.0	51.7	56.4	60.3	63.6	66.4	68.7	70.7	72.4	73.8	75.1	76.2
110	9.64	21.0	31.3	39.8	46.9	52.6	57.4	61.4	64.8	67.7	70.0	72.1	73.8	75.2	76.5	77.6
112	9.82	21.4	31.8	40.6	47.7	53.6	58.4	62.5	66.0	68.9	71.3	73.4	75.2	76.7	78.0	79.1
114	9.99	21.7	32.4	41.3	48.6	54.5	59.5	63.6	67.2	70.1	72.6	74.8	76.6	78.1	79.4	80.6
116	10.2	22.1	33.0	42.0	49.4	55.5	60.5	64.8	68.3	71.4	73.9	76.1	77.9	79.5	80.9	82.1
118	10.3	22.5	33.5	42.7	50.3	56.4	61.6	65.9	69.5	72.6	75.2	77.5	79.3	81.0	82.4	83.6
120	10.5	22.9	34.1	43.5	51.1	57.4	62.6	67.0	70.7	73.8	76.5	78.8	80.7	82.4	83.8	85.1
122	10.7	23.3	34.7	44.2	52.0	58.4	63.7	68.1	71.9	75.1	77.8	80.1	82.1	83.8	85.3	86.6
124	10.9	23.6	35.3	44.9	52.8	59.3	64.7	69.2	73.1	76.3	79.1	81.5	83.5	85.2	86.7	88.0
126	11.0	24.0	35.8	45.6	53.7	60.3	65.7	70.3	74.2	77.5	80.4	82.8	84.9	86.6	88.2	89.5
128	11.2	24.4	36.4	46.4	54.5	61.2	66.8	71.5	75.4	78.7	81.6	84.2	86.3	88.1	89.6	91.0
130	11.4	24.8	37.0	47.1	55.4	62.2	67.8	72.6	76.6	80.0	82.9	85.5	87.6	89.5	91.1	92.5
132	11.6	25.2	37.5	47.8	56.2	63.1	68.9	73.7	77.8	81.2	84.2	86.8	89.0	90.9	92.5	94.0
134	11.7	25.6	38.1	48.5	57.1	64.1	69.9	74.8	78.9	82.4	85.5	88.1	90.4	92.3	94.0	95.4
136	11.9	25.9	38.7	49.3	57.9	65.1	71.0	75.9	80.1	83.7	86.7	89.4	91.8	93.7	95.4	96.9
138	12.1	26.3	39.2	50.0	58.8	66.0	72.0	77.0	81.3	84.9	88.0	90.8	93.2	95.2	96.9	98.4
140	12.3	26.7	39.8	50.7	59.6	67.0	73.0	78.2	82.5	86.1	89.3	92.1	94.5	96.6	98.3	99.9
142	12.4	27.1	40.4	51.4	60.5	67.9	74.1	79.3	83.7	87.4	90.6	93.4	95.9	98.0	99.8	101.4
144	12.6	27.5	40.9	52.2	61.3	68.9	75.1	80.4	84.8	88.6	91.8	94.7	97.2	99.4	101.2	102.8
146	12.8	27.8	41.5	52.9	62.2	69.8	76.2	81.5	86.0	89.8	93.1	96.0	98.6	100.8	102.7	104.3
148	13.0	28.2	42.1	53.6	63.0	70.8	77.2	82.6	87.2	91.0	94.4	97.3	99.9	102.2	104.1	105.8
150	13.2	28.6	42.6	54.3	63.9	71.7	78.3	83.7	88.4	92.3	95.7	98.6	101.3	103.6	105.6	107.3
152	13.3	29.0	43.2	55.0	64.7	72.7	79.3	84.9	89.6	93.5	96.9	100.0	102.6	105.0	107.0	108.7
154	13.5	29.4	43.8	55.8	65.6	73.7	80.4	86.0	90.7	94.7	98.2	101.3	104.0	106.4	108.5	110.2
156	13.7	29.8	44.3	56.5	66.4	74.6	81.4	87.1	91.9	96.0	99.5	102.6	105.3	107.8	109.9	111.7
158	13.9	30.1	44.9	57.2	67.3	75.6	82.4	88.2	93.1	97.2	100.8	103.9	106.7	109.2	111.3	113.2
160	14.0	30.5	45.5	57.9	68.1	76.5	83.5	89.3	94.3	98.4	102.1	105.2	108.0	110.5	112.8	114.6
162	14.2	30.9	46.1	58.7	69.0	77.5	84.5	90.4	95.4	99.7	103.3	106.5	109.4	111.9	114.2	116.1
164	14.4	31.3	46.6	59.4	69.9	78.4	85.6	91.5	96.6	100.9	104.6	107.9	110.7	113.3	115.6	117.6
166	14.6	31.7	47.2	60.1	70.7	79.4	86.6	92.7	97.8	102.1	105.9	109.2	112.1	114.7	117.0	119.0
168	14.7	32.0	47.8	60.8	71.6	80.4	87.7	93.8	99.0	103.4	107.2	110.5	113.4	116.1	118.4	120.5
170	14.9	32.4	48.3	61.6	72.4	81.3	88.7	94.9	100.2	104.6	108.4	111.8	114.8	117.4	119.8	122.0
172	15.1	32.8	48.9	62.3	73.3	82.3	89.7	96.0	101.3	105.8	109.7	113.1	116.1	118.8	121.2	123.4
174	15.3	33.2	49.5	63.0	74.1	83.2	90.8	97.1	102.5	107.0	111.0	114.4	117.5	120.2	122.6	124.8
176	15.4	33.6	50.0	63.7	75.0	84.2	91.8	98.2	103.7	108.3	112.3	115.7	118.8	121.6	124.0	126.3
178	15.6	33.9	50.6	64.5	75.8	85.1	92.9	99.4	104.9	109.5	113.5	117.1	120.2	123.0	125.5	127.7
180	15.8	34.3	51.2	65.2	76.7	86.1	93.9	100.5	106.0	110.7	114.8	118.4	121.5	124.3	126.9	129.1
182	16.0	34.7	51.7	65.9	77.5	87.1	95.0	101.6	107.2	112.0	116.1	119.7	122.9	125.7	128.3	130.6
184	16.1	35.1	52.3	66.6	78.4	88.0	96.0	102.7	108.4	113.2	117.4	121.0	124.2	127.1	129.7	132.0
186	16.3	35.5	52.9	67.4	79.2	89.0	97.0	103.8	109.6	114.4	118.6	122.3	125.6	128.5	131.1	133.4
188	16.5	35.9	53.4	68.1	80.1	89.9	98.1	104.9	110.8	115.7	119.9	123.6	126.9	129.9	132.5	134.9
190	16.7	36.2	54.0	68.8	80.9	90.9	99.1	106.1	111.9	116.9	121.2	125.0	128.3	131.3	133.9	136.3
192	16.8	36.6	54.6	69.5	81.8	91.8	100.2	107.2	113.1	118.1	122.5	126.3	129.6	132.6	135.3	137.7
194	17.0	37.0	55.2	70.3	82.6	92.8	101.2	108.3	114.3	119.3	123.7	127.6	131.0	134.0	136.7	139.2
196	17.2	37.4	55.7	71.0	83.5	93.7	102.3	109.4	115.5	120.6	125.0	128.9	132.3	135.4	138.1	140.6
198	17.4	37.8	56.3	71.7	84.3	94.7	103.3	110.5	116.7	121.8	126.3	130.2	133.7	136.8	139.6	142.1
200	17.5	38.1	56.9	72.4	85.2	95.7	104.4	111.6	117.8	123.0	127.6	131.5	135.0	138.2	141.0	143.5
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
100	71.1	71.8	72.5	73.1	73.7	75.1	76.8	78.0	78.9	79.7	80.4	81.4	82.3	83.5		84.1
102	72.6	73.4	74.1	74.7	75.3	76.7	78.4	79.7	80.6	81.4	82.1	83.2	84.0	85.3		85.9
104	74.1	74.9	75.6	76.2	76.8	78.3	80.1	81.3	82.3	83.2	83.8	84.9	85.8	87.1		87.8
106	75.6	76.4	77.2	77.8	78.4	79.9	81.7	83.0	84.0	84.9	85.6	86.7	87.5	88.9		89.7
108	77.1	78.0	78.7	79.4	80.0	81.5	83.4	84.7	85.8	86.6	87.3	88.4	89.3	90.7		91.6
110	78.6	79.5	80.3	80.9	81.6	83.1	85.0	86.4	87.5	88.3	89.0	90.2	91.1	92.4	93.5	93.5
112	80.1	81.0	81.8	82.5	83.2	84.8	86.7	88.1	89.2	90.0	90.8	91.9	92.8	94.2	95.3	95.4
114	81.6	82.5	83.4	84.1	84.7	86.4	88.4	89.8	90.9	91.8	92.5	93.7	94.6	96.0	97.1	97.3
116	83.1	84.1	84.9	85.7	86.3	88.0	90.0	91.5	92.6	93.5	94.2	95.4	96.4	97.8	98.9	99.2
118	84.7	85.6	86.5	87.2	87.9	89.6	91.7	93.2	94.3	95.2	96.0	97.2	98.1	99.6	100.7	101.1
120	86.2	87.1	88.0	88.8	89.5	91.2	93.3	94.9	96.0	96.9	97.7	98.9	99.9	101.4	102.5	103.0
122	87.7	88.7	89.6	90.4	91.1	92.9	95.0	96.5	97.7	98.7	99.5	100.7	101.7	103.2	104.3	104.9
124	89.2	90.2	91.1	91.9	92.7	94.5	96.7	98.2	99.4	100.4	101.2	102.5	103.5	105.0	106.1	106.8
126	90.7	91.7	92.7	93.5	94.2	96.1	98.3	99.9	101.2	102.1	102.9	104.2	105.2	106.8	107.9	108.7
128	92.2	93.3	94.2	95.1	95.8	97.7	100.0	101.6	102.9	103.9	104.7	106.0	107.0	108.6	109.7	110.6
130	93.7	94.8	95.8	96.6	97.4	99.3	101.7	103.3	104.6	105.6	106.4	107.8	108.8	110.3	111.5	112.5
132	95.2	96.3	97.3	98.2	99.0	101.0	103.3	105.0	106.3	107.3	108.2	109.5	110.6	112.1	113.3	114.4
134	96.7	97.9	98.9	99.8	100.6	102.6	105.0	106.7	108.0	109.1	109.9	111.3	112.3	113.9	115.1	116.3
136	98.2	99.4	100.4	101.3	102.2	104.2	106.7	108.4	109.7	110.8	111.7	113.1	114.1	115.7	117.0	118.2
138	99.7	100.9	102.0	102.9	103.7	105.8	108.3	110.1	111.5	112.5	113.4	114.8	115.9	117.5	118.8	120.1
140	101.2	102.4	103.5	104.5	105.3	107.5	110.0	111.8	113.2	114.3	115.2	116.6	117.7	119.3	120.6	122.0
142	102.7	104.0	105.1	106.0	106.9	109.1	111.7	113.5	114.9	116.0	116.9	118.4	119.5	121.1	122.4	123.9
144	104.2	105.5	106.6	107.6	108.5	110.7	113.4	115.2	116.6	117.8	118.7	120.1	121.3	122.9	124.2	125.8
146	105.8	107.0	108.2	109.2	110.1	112.3	115.0	116.9	118.4	119.5	120.4	121.9	123.0	124.8	126.0	127.7
148	107.3	108.5	109.7	110.7	111.7	114.0	116.7	118.6	120.1	121.2	122.2	123.7	124.8	126.6	127.8	129.7
150	108.8	110.1	111.2	112.3	113.2	115.6	118.4	120.3	121.8	123.0	123.9	125.5	126.6	128.4	129.7	131.6
152	110.3	111.6	112.8	113.9	114.8	117.2	120.0	122.0	123.5	124.7	125.7	127.2	128.4	130.2	131.5	133.5
154	111.8	113.1	114.3	115.4	116.4	118.8	121.7	123.7	125.3	126.5	127.5	129.0	130.2	132.0	133.3	135.4
156	113.3	114.6	115.9	117.0	118.0	120.5	123.4	125.4	127.0	128.2	129.2	130.8	132.0	133.8	135.1	137.3
158	114.8	116.2	117.4	118.6	119.6	122.1	125.1	127.1	128.7	130.0	131.0	132.6	133.8	135.6	136.9	139.2
160	116.3	117.7	119.0	120.1	121.2	123.7	126.7	128.9	130.4	131.7	132.7	134.3	135.6	137.4	138.8	141.2
162	117.8	119.2	120.5	121.7	122.7	125.3	128.4	130.6	132.2	133.4	134.5	136.1	137.4	139.2	140.6	143.1
164	119.2	120.7	122.1	123.3	124.3	127.0	130.1	132.3	133.9	135.2	136.2	137.9	139.2	141.0	142.4	145.0
166	120.7	122.3	123.6	124.8	125.9	128.6	131.8	134.0	135.6	136.9	138.0	139.7	140.9	142.8	144.2	146.9
168	122.2	123.8	125.2	126.4	127.5	130.2	133.4	135.7	137.4	138.7	139.8	141.5	142.7	144.7	146.1	148.9
170	123.7	125.3	126.7	127.9	129.1	131.8	135.1	137.4	139.1	140.4	141.5	143.2	144.5	146.5	147.9	150.8
172	125.2	126.8	128.2	129.5	130.6	133.4	136.8	139.1	140.8	142.2	143.3	145.0	146.3	148.3	149.7	152.7
174	126.7	128.3	129.8	131.1	132.2	135.1	138.5	140.8	142.6	143.9	145.1	146.8	148.1	150.1	151.5	154.6
176	128.2	129.9	131.3	132.6	133.8	136.7	140.1	142.5	144.3	145.7	146.8	148.6	149.9	151.9	153.4	156.6
178	129.7	131.4	132.9	134.2	135.4	138.3	141.8	144.2	146.0	147.4	148.6	150.4	151.7	153.7	155.2	158.5
180	131.2	132.9	134.4	135.7	137.0	139.9	143.5	145.9	147.8	149.2	150.4	152.2	153.5	155.5	157.0	160.4
182	132.7	134.4	135.9	137.3	138.5	141.6	145.2	147.6	149.5	150.9	152.1	153.9	155.3	157.4	158.9	162.3
184	134.1	135.9	137.5	138.9	140.1	143.2	146.8	149.4	151.2	152.7	153.9	155.7	157.1	159.2	160.7	164.3
186	135.6	137.4	139.0	140.4	141.7	144.8	148.5	151.1	153.0	154.4	155.7	157.5	158.9	161.0	162.5	166.2
188	137.0	139.0	140.6	142.0	143.3	146.4	150.2	152.8	154.7	156.2	157.4	159.3	160.7	162.8	164.4	168.1
190	138.5	140.5	142.1	143.5	144.8	148.1	151.9	154.5	156.4	158.0	159.2	161.1	162.5	164.6	166.2	170.1
192	139.9	141.9	143.6	145.1	146.4	149.7	153.5	156.2	158.2	159.7	161.0	162.9	164.3	166.5	168.0	172.0
194	141.4	143.4	145.2	146.7	148.0	151.3	155.2	157.9	159.9	161.5	162.7	164.7	166.1	168.3	169.9	173.9
196	142.9	144.9	146.7	148.2	149.6	152.9	156.9	159.6	161.6	163.2	164.5	166.5	167.9	170.1	171.7	175.9
198	144.3	146.4	148.2	149.8	151.2	154.6	158.6	161.3	163.4	165.0	166.3	168.3	169.7	171.9	173.5	177.8
200	145.8	147.9	149.8	151.3	152.7	156.2	160.2	163.0	165.1	166.7	168.0	170.0	171.6	173.8	175.4	179.7
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	17.5	38.1	56.9	72.4	85.2	95.7	104.4	111.6	117.8	123.0	127.6	131.5	135.0	138.2	141.0	143.5
202	17.7	38.5	57.4	73.2	86.0	96.6	105.4	112.8	119.0	124.3	128.8	132.8	136.4	139.5	142.4	144.9
204	17.9	38.9	58.0	73.9	86.9	97.6	106.4	113.9	120.2	125.5	130.1	134.2	137.7	140.9	143.8	146.4
206	18.1	39.3	58.6	74.6	87.7	98.5	107.5	115.0	121.4	126.7	131.4	135.5	139.1	142.3	145.2	147.8
208	18.2	39.7	59.1	75.3	88.6	99.5	108.5	116.1	122.5	128.0	132.7	136.8	140.4	143.7	146.6	149.2
210	18.4	40.0	59.7	76.1	89.4	100.4	109.6	117.2	123.7	129.2	133.9	138.1	141.8	145.1	148.0	150.7
212	18.6	40.4	60.3	76.8	90.3	101.4	110.6	118.3	124.9	130.4	135.2	139.4	143.1	146.5	149.4	152.1
214	18.8	40.8	60.8	77.5	91.1	102.4	111.7	119.5	126.1	131.7	136.5	140.7	144.5	147.8	150.8	153.5
216	18.9	41.2	61.4	78.2	92.0	103.3	112.7	120.6	127.3	132.9	137.8	142.1	145.8	149.2	152.2	155.0
218	19.1	41.6	62.0	79.0	92.9	104.3	113.7	121.7	128.4	134.1	139.0	143.4	147.2	150.6	153.7	156.4
220	19.3	42.0	62.5	79.7	93.7	105.2	114.8	122.8	129.6	135.3	140.3	144.7	148.5	152.0	155.1	157.8
222	19.5	42.3	63.1	80.4	94.6	106.2	115.8	123.9	130.8	136.6	141.6	146.0	149.9	153.4	156.5	159.3
224	19.6	42.7	63.7	81.1	95.4	107.1	116.9	125.0	132.0	137.8	142.9	147.3	151.2	154.7	157.9	160.7
226	19.8	43.1	64.2	81.9	96.3	108.1	117.9	126.2	133.1	139.0	144.1	148.6	152.6	156.1	159.3	162.1
228	20.0	43.5	64.8	82.6	97.1	109.1	119.0	127.3	134.3	140.3	145.4	149.9	153.9	157.5	160.7	163.6
230	20.2	43.9	65.4	83.3	98.0	110.0	120.0	128.4	135.5	141.5	146.7	151.3	155.3	158.9	162.1	165.0
232	20.3	44.2	66.0	84.0	98.8	111.0	121.0	129.5	136.7	142.7	148.0	152.6	156.6	160.3	163.5	166.4
234	20.5	44.6	66.5	84.7	99.7	111.9	122.1	130.6	137.9	144.0	149.2	153.9	158.0	161.7	164.9	167.9
236	20.7	45.0	67.1	85.5	100.5	112.9	123.1	131.7	139.0	145.2	150.5	155.2	159.3	163.0	166.3	169.3
238	20.9	45.4	67.7	86.2	101.4	113.8	124.2	132.9	140.2	146.4	151.8	156.5	160.7	164.4	167.7	170.8
240	21.0	45.8	68.2	86.9	102.2	114.8	125.2	134.0	141.4	147.6	153.1	157.8	162.0	165.8	169.2	172.2
242	21.2	46.2	68.8	87.6	103.1	115.8	126.3	135.1	142.6	148.9	154.4	159.2	163.4	167.2	170.6	173.6
244	21.4	46.5	69.4	88.4	103.9	116.7	127.3	136.2	143.8	150.1	155.6	160.5	164.7	168.6	172.0	175.1
246	21.6	46.9	69.9	89.1	104.8	117.7	128.4	137.3	144.9	151.3	156.9	161.8	166.1	169.9	173.4	176.5
248	21.7	47.3	70.5	89.8	105.6	118.6	129.4	138.4	146.1	152.6	158.2	163.1	167.5	171.3	174.8	177.9
250	21.9	47.7	71.1	90.5	106.5	119.6	130.4	139.6	147.3	153.8	159.5	164.4	168.8	172.7	176.2	179.4
	.088	*.190*	*.284*	*.364*	*.426*	*.478*	*.522*	*.558*	*.588*	*.616*	*.636*	*.658*	*.676*	*.690*	*.704*	*.716*
300	26.3	57.2	85.3	108.7	127.8	143.5	156.5	167.5	176.7	184.6	191.3	197.3	202.6	207.2	211.4	215.2
	.088	*.190*	*.284*	*.362*	*.426*	*.478*	*.522*	*.558*	*.590*	*.614*	*.638*	*.658*	*.674*	*.692*	*.706*	*.718*
350	30.7	66.7	99.5	126.8	149.1	167.4	182.6	195.4	206.2	215.3	223.2	230.2	236.3	241.8	246.7	251.1
	.088	*.192*	*.284*	*.362*	*.426*	*.478*	*.522*	*.558*	*.590*	*.616*	*.638*	*.658*	*.676*	*.690*	*.704*	*.718*
400	35.1	76.3	113.7	144.9	170.4	191.3	208.7	223.3	235.7	246.1	255.1	263.1	270.1	276.3	281.9	287.0
	.088	*.190*	*.284*	*.362*	*.426*	*.478*	*.522*	*.558*	*.588*	*.614*	*.638*	*.656*	*.674*	*.692*	*.706*	*.716*
450	39.5	85.8	127.9	163.0	191.7	215.2	234.8	251.2	265.1	276.8	287.0	295.9	303.8	310.9	317.2	322.8
	.086	*.192*	*.284*	*.362*	*.426*	*.480*	*.522*	*.558*	*.590*	*.616*	*.638*	*.658*	*.676*	*.690*	*.704*	*.718*
500	43.8	95.4	142.1	181.1	213.0	239.2	260.9	279.1	294.6	307.6	318.9	328.8	337.6	345.4	352.4	358.7
	.088	*.190*	*.285*	*.362*	*.426*	*.478*	*.522*	*.558*	*.589*	*.615*	*.638*	*.658*	*.675*	*.691*	*.705*	*.718*
600	52.6	114.4	170.6	217.3	255.6	287.0	313.1	334.9	353.5	369.1	382.7	394.6	405.1	414.5	422.9	430.5
	.088	*.191*	*.284*	*.362*	*.425*	*.478*	*.521*	*.559*	*.589*	*.615*	*.638*	*.658*	*.675*	*.691*	*.705*	*.717*
700	61.4	133.5	199.0	253.5	298.1	334.8	365.2	390.8	412.4	430.6	446.5	460.4	472.6	483.6	493.4	502.2
	.087	*.191*	*.284*	*.362*	*.426*	*.478*	*.522*	*.558*	*.589*	*.616*	*.638*	*.657*	*.676*	*.691*	*.705*	*.718*
800	70.1	152.6	227.4	289.7	340.7	382.6	417.4	446.6	471.3	492.2	510.3	526.1	540.2	552.7	563.9	574.0
	.088	*.190*	*.285*	*.363*	*.426*	*.479*	*.522*	*.558*	*.589*	*.615*	*.637*	*.658*	*.675*	*.690*	*.704*	*.717*
900	78.9	171.6	255.9	326.0	383.3	430.5	469.6	502.4	530.2	553.7	574.0	591.9	607.7	621.7	634.3	645.7
	.088	*.191*	*.284*	*.362*	*.426*	*.478*	*.522*	*.558*	*.590*	*.615*	*.638*	*.658*	*.675*	*.691*	*.705*	*.717*
1000	87.7	190.7	284.3	362.2	425.9	478.3	521.8	558.2	589.2	615.2	637.8	657.7	675.2	690.8	704.8	717.4
	.087	*.191*	*.284*	*.362*	*.426*	*.478*	*.521*	*.558*	*.589*	*.615*	*.638*	*.657*	*.675*	*.691*	*.705*	*.718*
1100	96.4	209.8	312.7	398.4	468.5	526.1	573.9	614.0	648.1	676.7	701.6	723.4	742.7	759.9	775.3	789.2
	.0877	*.1907*	*.2843*	*.3622*	*.4259*	*.4783*	*.5218*	*.5582*	*.5892*	*.6152*	*.6378*	*.6577*	*.6752*	*.6908*	*.7048*	*.7174*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
200	145.8	147.9	149.8	151.3	152.7	156.2	160.2	163.0	165.1	166.7	168.0	170.0	171.6	173.8	175.4	179.7
202	147.2	149.3	151.3	152.9	154.3	157.8	161.9	164.8	166.9	168.5	169.8	171.8	173.4	175.6	177.2	181.7
204	148.7	150.8	152.8	154.4	155.9	159.4	163.6	166.5	168.6	170.2	171.6	173.6	175.2	177.4	179.0	183.6
206	150.1	152.3	154.3	156.0	157.4	161.0	165.3	168.2	170.3	172.0	173.4	175.4	177.0	179.2	180.9	185.5
208	151.6	153.8	155.8	157.5	159.0	162.7	166.9	169.9	172.1	173.8	175.1	177.2	178.8	181.1	182.7	187.5
210	153.1	155.3	157.3	159.1	160.6	164.3	168.6	171.6	173.8	175.5	176.9	179.0	180.6	182.9	184.6	189.4
212	154.5	156.7	158.8	160.6	162.2	165.9	170.3	173.3	175.6	177.3	178.7	180.8	182.4	184.7	186.4	191.4
214	156.0	158.2	160.3	162.1	163.7	167.5	172.0	175.0	177.3	179.0	180.4	182.6	184.2	186.5	188.2	193.3
216	157.4	159.7	161.7	163.6	165.3	169.1	173.7	176.8	179.0	180.8	182.2	184.4	186.0	188.4	190.1	195.2
218	158.9	161.2	163.2	165.2	166.9	170.8	175.3	178.5	180.8	182.6	184.0	186.2	187.8	190.2	191.9	197.2
220	160.4	162.6	164.7	166.7	168.4	172.4	177.0	180.2	182.5	184.3	185.8	188.0	189.6	192.0	193.8	199.1
222	161.8	164.1	166.2	168.2	170.0	174.0	178.7	181.9	184.3	186.1	187.5	189.8	191.4	193.9	195.6	201.1
224	163.3	165.6	167.7	169.7	171.5	175.6	180.4	183.6	186.0	187.8	189.3	191.6	193.3	195.7	197.4	203.0
226	164.7	167.1	169.2	171.2	173.0	177.2	182.0	185.3	187.7	189.6	191.1	193.4	195.1	197.5	199.3	204.9
228	166.2	168.6	170.7	172.7	174.6	178.9	183.7	187.0	189.5	191.4	192.9	195.2	196.9	199.4	201.1	206.9
230	167.6	170.0	172.2	174.2	176.1	180.5	185.4	188.8	191.2	193.1	194.6	197.0	198.7	201.2	203.0	208.8
232	169.1	171.5	173.7	175.8	177.6	182.1	187.1	190.5	193.0	194.9	196.4	198.8	200.5	203.0	204.8	210.8
234	170.6	173.0	175.2	177.3	179.2	183.7	188.7	192.2	194.7	196.6	198.2	200.6	202.3	204.9	206.7	212.7
236	172.0	174.5	176.7	178.8	180.7	185.3	190.4	193.9	196.4	198.4	200.0	202.4	204.1	206.7	208.5	214.7
238	173.5	176.0	178.2	180.3	182.2	186.9	192.1	195.6	198.2	200.2	201.8	204.2	205.9	208.5	210.4	216.6
240	174.9	177.4	179.7	181.8	183.8	188.6	193.8	197.3	199.9	201.9	203.5	206.0	207.8	210.4	212.2	218.6
242	176.4	178.9	181.2	183.3	185.3	190.2	195.4	199.0	201.7	203.7	205.3	207.8	209.6	212.2	214.1	220.5
244	177.8	180.4	182.7	184.9	186.8	191.8	197.1	200.8	203.4	205.5	207.1	209.6	211.4	214.0	215.9	222.5
246	179.3	181.9	184.2	186.4	188.4	193.4	198.8	202.5	205.2	207.2	208.9	211.4	213.2	215.9	217.7	224.4
248	180.8	183.3	185.7	187.9	189.9	195.0	200.5	204.2	206.9	209.0	210.6	213.2	215.0	217.7	219.6	226.3
250	182.2	184.8	187.2	189.4	191.4	196.6	202.1	205.9	208.6	210.7	212.4	215.0	216.8	219.5	221.4	228.3
	.730	*.740*	*.748*	*.758*	*.766*	*.788*	*.836*	*.858*	*.874*	*.884*	*.892*	*.902*	*.912*	*.922*	*.928*	*.976*
300	218.7	221.8	224.6	227.3	229.7	236.0	243.9	248.8	252.3	254.9	257.0	260.1	262.4	265.6	267.8	277.1
	.728	*.740*	*.750*	*.758*	*.766*	*.786*	*.814*	*.856*	*.872*	*.884*	*.892*	*.906*	*.914*	*.924*	*.930*	*.982*
350	255.1	258.8	262.1	265.2	268.0	275.3	284.6	291.6	295.9	299.1	301.6	305.4	308.1	311.8	314.3	326.2
	.730	*.738*	*.748*	*.756*	*.766*	*.786*	*.814*	*.832*	*.870*	*.884*	*.894*	*.908*	*.916*	*.926*	*.934*	*.982*
400	291.6	295.7	299.5	303.0	306.3	314.6	325.3	333.2	339.4	343.3	346.3	350.8	353.9	358.1	361.0	375.3
	.728	*.740*	*.750*	*.758*	*.764*	*.786*	*.812*	*.834*	*.850*	*.884*	*.894*	*.908*	*.918*	*.930*	*.936*	*.986*
450	328.0	332.7	337.0	340.9	344.5	353.9	365.9	374.9	381.9	387.5	391.0	396.2	399.8	404.6	407.8	424.6
	.728	*.738*	*.748*	*.758*	*.766*	*.788*	*.814*	*.832*	*.848*	*.862*	*.894*	*.908*	*.918*	*.932*	*.938*	*.988*
500	364.4	369.6	374.4	378.8	382.8	393.3	406.6	416.5	424.3	430.6	435.7	441.6	445.7	451.2	454.7	474.0
	.729	*.740*	*.749*	*.758*	*.766*	*.786*	*.813*	*.833*	*.849*	*.861*	*.872*	*.910*	*.920*	*.933*	*.941*	*.991*
600	437.3	443.6	449.3	454.6	459.4	471.9	487.9	499.8	509.2	516.7	522.9	532.6	537.7	544.5	548.8	573.1
	.729	*.739*	*.749*	*.757*	*.766*	*.787*	*.813*	*.834*	*.848*	*.861*	*.871*	*.887*	*.921*	*.934*	*.943*	*.993*
700	510.2	517.5	524.2	530.3	536.0	550.6	569.2	583.2	594.0	602.8	610.0	621.3	629.8	637.9	643.1	672.4
	.729	*.739*	*.749*	*.758*	*.765*	*.786*	*.813*	*.833*	*.849*	*.861*	*.872*	*.888*	*.899*	*.936*	*.944*	*.994*
800	583.1	591.4	599.1	606.1	612.5	629.2	650.5	666.5	678.9	688.9	697.2	710.1	719.7	731.5	737.5	771.8
	.729	*.740*	*.748*	*.757*	*.766*	*.787*	*.813*	*.833*	*.849*	*.861*	*.871*	*.887*	*.900*	*.936*	*.945*	*.997*
900	656.0	665.4	673.9	681.8	689.1	707.9	731.8	749.8	763.8	775.0	784.3	798.8	809.7	825.1	832.0	871.5
	.729	*.739*	*.749*	*.758*	*.766*	*.786*	*.814*	*.833*	*.848*	*.861*	*.872*	*.888*	*.900*	*.917*	*.946*	*.997*
1000	728.9	739.3	748.8	757.6	765.7	786.5	813.2	833.1	848.6	861.1	871.5	887.6	899.7	916.8	926.6	971.2
	.729	*.739*	*.749*	*.757*	*.765*	*.787*	*.813*	*.833*	*.849*	*.862*	*.871*	*.887*	*.899*	*.912*	*.944*	*.998*
1100	801.8	813.2	823.7	833.3	842.2	865.2	894.5	916.4	933.5	947.3	958.6	976.3	989.6	1008.	1021.	1071.
	.7289	*.7393*	*.7488*	*.7576*	*.7657*	*.7865*	*.8132*	*.8331*	*.8486*	*.8611*	*.8715*	*.8876*	*.8997*	*.9168*	*.9284*	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.168															
3	.275	.489														
4	.385	.703	.922													
5	.481	.924	1.22	1.43												
6	.578	1.15	1.53	1.80	2.00											
7	.674	1.38	1.85	2.18	2.42	2.60										
8	.770	1.60	2.17	2.57	2.86	3.07	3.25									
9	.867	1.83	2.50	2.96	3.30	3.55	3.75	3.92								
10	.963	2.03	2.82	3.36	3.75	4.04	4.27	4.45	4.61							
11	1.06	2.24	3.15	3.76	4.20	4.53	4.79	5.00	5.17	5.32						
12	1.16	2.44	3.47	4.16	4.66	5.03	5.32	5.55	5.75	5.91	6.05					
13	1.25	2.64	3.80	4.57	5.12	5.53	5.85	6.11	6.32	6.50	6.66	6.80				
14	1.35	2.85	4.13	4.97	5.58	6.04	6.39	6.67	6.91	7.10	7.27	7.42	7.56			
15	1.44	3.05	4.45	5.38	6.05	6.55	6.93	7.24	7.49	7.71	7.89	8.05	8.20	8.33		
16	1.54	3.25	4.77	5.78	6.51	7.06	7.48	7.81	8.09	8.32	8.52	8.69	8.84	8.98	9.11	
17	1.64	3.46	5.07	6.19	6.98	7.57	8.03	8.39	8.69	8.93	9.15	9.33	9.50	9.64	9.77	9.89
18	1.73	3.66	5.37	6.59	7.45	8.09	8.58	8.97	9.29	9.55	9.78	9.98	10.2	10.3	10.4	10.6
19	1.83	3.86	5.67	7.00	7.92	8.61	9.13	9.55	9.89	10.2	10.4	10.6	10.8	11.0	11.1	11.3
20	1.93	4.06	5.97	7.40	8.39	9.12	9.69	10.1	10.5	10.8	11.1	11.3	11.5	11.6	11.8	11.9
21	2.02	4.27	6.27	7.81	8.86	9.64	10.2	10.7	11.1	11.4	11.7	11.9	12.1	12.3	12.5	12.6
22	2.12	4.47	6.56	8.21	9.33	10.2	10.8	11.3	11.7	12.1	12.3	12.6	12.8	13.0	13.2	13.3
23	2.21	4.67	6.86	8.61	9.80	10.7	11.4	11.9	12.3	12.7	13.0	13.3	13.5	13.7	13.9	14.0
24	2.31	4.88	7.16	9.02	10.3	11.2	11.9	12.5	12.9	13.3	13.6	13.9	14.2	14.4	14.6	14.7
25	2.41	5.08	7.46	9.42	10.7	11.7	12.5	13.1	13.6	14.0	14.3	14.6	14.8	15.1	15.3	15.4
26	2.50	5.28	7.76	9.79	11.2	12.2	13.0	13.7	14.2	14.6	15.0	15.3	15.5	15.8	16.0	16.2
27	2.60	5.49	8.06	10.2	11.7	12.8	13.6	14.3	14.8	15.2	15.6	15.9	16.2	16.4	16.7	16.9
28	2.70	5.69	8.36	10.5	12.1	13.3	14.2	14.9	15.4	15.9	16.3	16.6	16.9	17.1	17.4	17.6
29	2.79	5.89	8.65	10.9	12.6	13.8	14.7	15.5	16.0	16.5	16.9	17.3	17.6	17.8	18.1	18.3
30	2.89	6.10	8.95	11.3	13.1	14.3	15.3	16.1	16.7	17.2	17.6	18.0	18.3	18.5	18.8	19.0
31	2.99	6.30	9.25	11.7	13.5	14.8	15.9	16.7	17.3	17.8	18.3	18.6	19.0	19.2	19.5	19.7
32	3.08	6.50	9.55	12.1	14.0	15.4	16.4	17.3	17.9	18.5	18.9	19.3	19.7	19.9	20.2	20.4
33	3.18	6.71	9.85	12.4	14.5	15.9	17.0	17.9	18.5	19.1	19.6	20.0	20.3	20.7	20.9	21.2
34	3.27	6.91	10.1	12.8	14.9	16.4	17.6	18.4	19.2	19.8	20.3	20.7	21.0	21.4	21.6	21.9
35	3.37	7.11	10.4	13.2	15.4	16.9	18.1	19.0	19.8	20.4	20.9	21.4	21.7	22.1	22.4	22.6
36	3.47	7.32	10.7	13.6	15.9	17.4	18.7	19.6	20.4	21.1	21.6	22.0	22.4	22.8	23.1	23.3
37	3.56	7.52	11.0	13.9	16.3	18.0	19.2	20.2	21.1	21.7	22.3	22.7	23.1	23.5	23.8	24.1
38	3.66	7.72	11.3	14.3	16.7	18.5	19.8	20.8	21.7	22.4	22.9	23.4	23.8	24.2	24.5	24.8
39	3.76	7.93	11.6	14.7	17.2	19.0	20.4	21.4	22.3	23.0	23.6	24.1	24.5	24.9	25.2	25.5
40	3.85	8.13	11.9	15.1	17.6	19.5	20.9	22.0	22.9	23.7	24.3	24.8	25.2	25.6	26.0	26.3
41	3.95	8.33	12.2	15.4	18.1	20.0	21.5	22.6	23.6	24.3	24.9	25.5	25.9	26.3	26.7	27.0
42	4.04	8.54	12.5	15.8	18.5	20.5	22.0	23.2	24.2	25.0	25.6	26.2	26.6	27.1	27.4	27.7
43	4.14	8.74	12.8	16.2	18.9	21.1	22.6	23.8	24.8	25.6	26.3	26.9	27.3	27.8	28.1	28.5
44	4.24	8.94	13.1	16.6	19.4	21.6	23.2	24.4	25.4	26.3	27.0	27.6	28.1	28.5	28.9	29.2
45	4.33	9.15	13.4	17.0	19.8	22.1	23.7	25.0	26.1	26.9	27.6	28.2	28.8	29.2	29.6	29.9
46	4.43	9.35	13.7	17.3	20.3	22.6	24.3	25.6	26.7	27.6	28.3	28.9	29.5	29.9	30.3	30.7
47	4.53	9.55	14.0	17.7	20.7	23.1	24.8	26.2	27.3	28.2	29.0	29.6	30.2	30.6	31.1	31.4
48	4.62	9.76	14.3	18.1	21.1	23.6	25.4	26.8	28.0	28.9	29.7	30.3	30.9	31.4	31.8	32.2
49	4.72	9.96	14.6	18.5	21.6	24.1	26.0	27.4	28.6	29.5	30.3	31.0	31.6	32.1	32.5	32.9
50	4.81	10.2	14.9	18.8	22.0	24.6	26.5	28.0	29.2	30.2	31.0	31.7	32.3	32.8	33.3	33.6
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
1																
2																.0121
3																.168
4																.489
5																.922
6																1.43
7																2.00
8																2.60
9																3.25
10																3.92
11																4.61
12																5.32
13																6.05
14																6.80
15																7.56
16																8.33
17																9.11
18	10.7															9.89
19	11.4	11.5														10.7
20	12.1	12.2	12.3													11.5
21	12.8	12.9	13.0	13.1												12.3
22	13.5	13.6	13.7	13.8	14.0											13.1
23	14.2	14.3	14.5	14.6	14.7											14.0
24	14.9	15.0	15.2	15.3	15.4											14.8
25	15.6	15.8	15.9	16.0	16.1	16.5										15.6
26	16.3	16.5	16.6	16.8	16.9	17.2										16.5
27	17.0	17.2	17.3	17.5	17.6	18.0										17.3
28	17.8	17.9	18.1	18.2	18.4	18.7										18.2
29	18.5	18.7	18.8	19.0	19.1	19.5										19.0
30	19.2	19.4	19.6	19.7	19.8	20.2	20.7									19.9
31	19.9	20.1	20.3	20.4	20.6	21.0	21.5									20.7
32	20.7	20.9	21.0	21.2	21.3	21.7	22.3									21.6
33	21.4	21.6	21.8	21.9	22.1	22.5	23.1									22.5
34	22.1	22.3	22.5	22.7	22.9	23.3	23.8									23.3
35	22.9	23.1	23.3	23.4	23.6	24.0	24.6	25.1								24.2
36	23.6	23.8	24.0	24.2	24.4	24.8	25.4	25.9								25.1
37	24.3	24.5	24.8	24.9	25.1	25.6	26.2	26.7								26.0
38	25.1	25.3	25.5	25.7	25.9	26.4	27.0	27.5								26.8
39	25.8	26.0	26.3	26.5	26.6	27.1	27.8	28.3								27.7
40	26.5	26.8	27.0	27.2	27.4	27.9	28.6	29.1	29.5							28.6
41	27.3	27.5	27.8	28.0	28.2	28.7	29.3	29.9	30.3							29.5
42	28.0	28.3	28.5	28.7	28.9	29.5	30.1	30.7	31.1							30.4
43	28.8	29.0	29.3	29.5	29.7	30.2	30.9	31.5	31.9							31.3
44	29.5	29.8	30.0	30.3	30.5	31.0	31.7	32.3	32.7							32.2
45	30.3	30.5	30.8	31.0	31.2	31.8	32.5	33.1	33.6	34.0						33.1
46	31.0	31.3	31.6	31.8	32.0	32.6	33.3	33.9	34.4	34.8						34.0
47	31.8	32.0	32.3	32.6	32.8	33.4	34.1	34.7	35.2	35.6						34.9
48	32.5	32.8	33.1	33.3	33.6	34.2	34.9	35.5	36.0	36.4						35.8
49	33.2	33.6	33.8	34.1	34.3	34.9	35.7	36.3	36.8	37.3						36.7
50	34.0	34.3	34.6	34.9	35.1	35.7	36.5	37.2	37.7	38.1	38.5					37.6
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	38.5

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	4.81	10.2	14.9	18.8	22.0	24.6	26.5	28.0	29.2	30.2	31.0	31.7	32.3	32.8	33.3	33.6
51	4.91	10.4	15.2	19.2	22.5	25.1	27.1	28.6	29.8	30.9	31.7	32.4	33.0	33.5	34.0	34.4
52	5.01	10.6	15.5	19.6	22.9	25.6	27.6	29.2	30.5	31.5	32.4	33.1	33.7	34.2	34.7	35.1
53	5.10	10.8	15.8	20.0	23.3	26.1	28.2	29.8	31.1	32.2	33.0	33.8	34.4	35.0	35.5	35.9
54	5.20	11.0	16.1	20.3	23.8	26.6	28.7	30.4	31.7	32.8	33.7	34.5	35.1	35.7	36.2	36.6
55	5.30	11.2	16.4	20.7	24.2	27.1	29.3	31.0	32.4	33.5	34.4	35.2	35.8	36.4	36.9	37.4
56	5.39	11.4	16.7	21.1	24.7	27.6	29.8	31.6	33.0	34.1	35.1	35.9	36.6	37.1	37.7	38.1
57	5.49	11.6	17.0	21.5	25.1	28.1	30.4	32.2	33.6	34.8	35.8	36.6	37.3	37.9	38.4	38.9
58	5.59	11.8	17.3	21.8	25.5	28.6	31.0	32.8	34.2	35.4	36.4	37.3	38.0	38.6	39.1	39.6
59	5.68	12.0	17.6	22.2	26.0	29.0	31.5	33.4	34.9	36.1	37.1	38.0	38.7	39.3	39.9	40.3
60	5.78	12.2	17.9	22.6	26.4	29.5	32.1	34.0	35.5	36.7	37.8	38.7	39.4	40.0	40.6	41.1
61	5.87	12.4	18.2	23.0	26.9	30.0	32.6	34.5	36.1	37.4	38.5	39.3	40.1	40.8	41.3	41.8
62	5.97	12.6	18.5	23.4	27.3	30.5	33.2	35.1	36.7	38.0	39.1	40.0	40.8	41.5	42.1	42.6
63	6.07	12.8	18.8	23.7	27.7	31.0	33.7	35.7	37.4	38.7	39.8	40.7	41.5	42.2	42.8	43.3
64	6.16	13.0	19.1	24.1	28.2	31.5	34.3	36.3	38.0	39.3	40.5	41.4	42.2	42.9	43.6	44.1
65	6.26	13.2	19.4	24.5	28.6	32.0	34.8	36.9	38.6	40.0	41.2	42.1	43.0	43.7	44.3	44.8
66	6.36	13.4	19.7	24.9	29.1	32.5	35.3	37.5	39.2	40.7	41.8	42.8	43.7	44.4	45.0	45.6
67	6.45	13.6	20.0	25.2	29.5	33.0	35.9	38.1	39.9	41.3	42.5	43.5	44.4	45.1	45.8	46.3
68	6.55	13.8	20.3	25.6	29.9	33.5	36.4	38.7	40.5	42.0	43.2	44.2	45.1	45.9	46.5	47.1
69	6.64	14.0	20.6	26.0	30.4	34.0	36.9	39.3	41.1	42.6	43.9	44.9	45.8	46.6	47.2	47.8
70	6.74	14.2	20.9	26.4	30.8	34.5	37.5	39.8	41.7	43.3	44.5	45.6	46.5	47.3	48.0	48.6
71	6.84	14.4	21.2	26.7	31.3	35.0	38.0	40.4	42.3	43.9	45.2	46.3	47.2	48.0	48.7	49.3
72	6.93	14.6	21.5	27.1	31.7	35.4	38.5	41.0	43.0	44.6	45.9	47.0	47.9	48.8	49.5	50.1
73	7.03	14.8	21.8	27.5	32.1	35.9	39.1	41.6	43.6	45.2	46.6	47.7	48.7	49.5	50.2	50.8
74	7.13	15.0	22.1	27.9	32.6	36.4	39.6	42.2	44.2	45.9	47.2	48.4	49.4	50.2	50.9	51.6
75	7.22	15.2	22.4	28.3	33.0	36.9	40.1	42.8	44.8	46.5	47.9	49.1	50.1	50.9	51.7	52.3
76	7.32	15.4	22.7	28.6	33.5	37.4	40.7	43.4	45.4	47.2	48.6	49.8	50.8	51.7	52.4	53.1
77	7.41	15.6	23.0	29.0	33.9	37.9	41.2	43.9	46.1	47.8	49.3	50.5	51.5	52.4	53.2	53.8
78	7.51	15.9	23.3	29.4	34.3	38.4	41.8	44.5	46.7	48.5	49.9	51.2	52.2	53.1	53.9	54.6
79	7.61	16.1	23.6	29.8	34.8	38.9	42.3	45.1	47.3	49.1	50.6	51.9	52.9	53.9	54.7	55.4
80	7.70	16.3	23.9	30.1	35.2	39.4	42.8	45.7	47.9	49.7	51.3	52.6	53.6	54.6	55.4	56.1
81	7.80	16.5	24.2	30.5	35.7	39.9	43.4	46.3	48.5	50.4	51.9	53.2	54.4	55.3	56.1	56.9
82	7.90	16.7	24.5	30.9	36.1	40.4	43.9	46.8	49.1	51.0	52.6	53.9	55.1	56.0	56.9	57.6
83	7.99	16.9	24.8	31.3	36.5	40.9	44.4	47.4	49.8	51.7	53.3	54.6	55.8	56.8	57.6	58.4
84	8.09	17.1	25.1	31.6	37.0	41.4	45.0	48.0	50.4	52.3	54.0	55.3	56.5	57.5	58.4	59.1
85	8.19	17.3	25.4	32.0	37.4	41.8	45.5	48.6	51.0	53.0	54.6	56.0	57.2	58.2	59.1	59.9
86	8.28	17.5	25.7	32.4	37.9	42.3	46.0	49.1	51.6	53.6	55.3	56.7	57.9	58.9	59.8	60.6
87	8.38	17.7	26.0	32.8	38.3	42.8	46.6	49.7	52.2	54.3	56.0	57.4	58.6	59.7	60.6	61.4
88	8.47	17.9	26.3	33.1	38.7	43.3	47.1	50.3	52.8	54.9	56.6	58.1	59.3	60.4	61.3	62.1
89	8.57	18.1	26.6	33.5	39.2	43.8	47.6	50.8	53.5	55.6	57.3	58.8	60.0	61.1	62.1	62.9
90	8.67	18.3	26.9	33.9	39.6	44.3	48.2	51.4	54.1	56.2	58.0	59.5	60.8	61.9	62.8	63.6
91	8.76	18.5	27.2	34.3	40.1	44.8	48.7	52.0	54.7	56.8	58.7	60.2	61.5	62.6	63.5	64.4
92	8.86	18.7	27.5	34.7	40.5	45.3	49.2	52.6	55.3	57.5	59.3	60.9	62.2	63.3	64.3	65.1
93	8.96	18.9	27.8	35.0	40.9	45.8	49.8	53.1	55.9	58.1	60.0	61.6	62.9	64.0	65.0	65.9
94	9.05	19.1	28.0	35.4	41.4	46.3	50.3	53.7	56.5	58.8	60.7	62.2	63.6	64.8	65.8	66.6
95	9.15	19.3	28.3	35.8	41.8	46.8	50.9	54.3	57.1	59.4	61.3	62.9	64.3	65.5	66.5	67.4
96	9.24	19.5	28.6	36.2	42.3	47.3	51.4	54.8	57.7	60.1	62.0	63.6	65.0	66.2	67.2	68.2
97	9.34	19.7	28.9	36.5	42.7	47.8	51.9	55.4	58.3	60.7	62.7	64.3	65.7	66.9	68.0	68.9
98	9.44	19.9	29.2	36.9	43.2	48.2	52.5	56.0	58.9	61.3	63.3	65.0	66.4	67.7	68.7	69.7
99	9.53	20.1	29.5	37.3	43.6	48.7	53.0	56.6	59.6	62.0	64.0	65.7	67.1	68.4	69.5	70.4
100	9.63	20.3	29.8	37.7	44.0	49.2	53.5	57.1	60.2	62.6	64.7	66.4	67.9	69.1	70.2	71.2
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
50	34.0	34.3	34.6	34.9	35.1	35.7	36.5	37.2	37.7	38.1	38.5					38.5	50
51	34.7	35.1	35.4	35.6	35.9	36.5	37.3	38.0	38.5	38.9	39.3					39.4	51
52	35.5	35.8	36.1	36.4	36.7	37.3	38.2	38.8	39.3	39.8	40.1					40.3	52
53	36.3	36.6	36.9	37.2	37.4	38.1	39.0	39.6	40.1	40.6	41.0					41.2	53
54	37.0	37.4	37.7	38.0	38.2	38.9	39.8	40.4	41.0	41.4	41.8					42.1	54
55	37.8	38.1	38.4	38.7	39.0	39.7	40.6	41.3	41.8	42.3	42.7					43.0	55
56	38.5	38.9	39.2	39.5	39.8	40.5	41.4	42.1	42.6	43.1	43.5					43.9	56
57	39.3	39.6	40.0	40.3	40.6	41.3	42.2	42.9	43.5	43.9	44.4					44.8	57
58	40.0	40.4	40.7	41.1	41.3	42.1	43.0	43.7	44.3	44.8	45.2					45.8	58
59	40.8	41.2	41.5	41.8	42.1	42.9	43.8	44.5	45.1	45.6	46.0					46.7	59
60	41.5	41.9	42.3	42.6	42.9	43.7	44.6	45.4	46.0	46.5	46.9	47.6				47.6	60
61	42.3	42.7	43.1	43.4	43.7	44.5	45.4	46.2	46.8	47.3	47.7	48.5				48.5	61
62	43.0	43.5	43.8	44.2	44.5	45.3	46.3	47.0	47.6	48.1	48.6	49.3				49.4	62
63	43.8	44.2	44.6	44.9	45.3	46.1	47.1	47.8	48.5	49.0	49.4	50.2				50.4	63
64	44.6	45.0	45.4	45.7	46.0	46.9	47.9	48.7	49.3	49.8	50.3	51.0				51.3	64
65	45.3	45.8	46.1	46.5	46.8	47.7	48.7	49.5	50.1	50.7	51.1	51.9				52.2	65
66	46.1	46.5	46.9	47.3	47.6	48.5	49.5	50.3	51.0	51.5	52.0	52.7				53.1	66
67	46.8	47.3	47.7	48.1	48.4	49.3	50.3	51.2	51.8	52.4	52.8	53.6				54.1	67
68	47.6	48.1	48.5	48.8	49.2	50.1	51.2	52.0	52.7	53.2	53.7	54.5				55.0	68
69	48.4	48.8	49.2	49.6	50.0	50.9	52.0	52.8	53.5	54.1	54.5	55.3				55.9	69
70	49.1	49.6	50.0	50.4	50.8	51.7	52.8	53.7	54.3	54.9	55.4	56.2	56.8			56.8	70
71	49.9	50.4	50.8	51.2	51.6	52.5	53.6	54.5	55.2	55.8	56.2	57.1	57.7			57.8	71
72	50.6	51.1	51.6	52.0	52.3	53.3	54.4	55.3	56.0	56.6	57.1	57.9	58.6			58.7	72
73	51.4	51.9	52.4	52.8	53.1	54.1	55.3	56.2	56.9	57.5	58.0	58.8	59.5			59.6	73
74	52.2	52.7	53.1	53.5	53.9	54.9	56.1	57.0	57.7	58.3	58.8	59.6	60.3			60.6	74
75	52.9	53.4	53.9	54.3	54.7	55.7	56.9	57.8	58.6	59.2	59.7	60.5	61.2			61.5	75
76	53.7	54.2	54.7	55.1	55.5	56.5	57.7	58.7	59.4	60.0	60.5	61.4	62.1			62.4	76
77	54.4	55.0	55.5	55.9	56.3	57.3	58.6	59.5	60.2	60.9	61.4	62.2	62.9			63.4	77
78	55.2	55.8	56.2	56.7	57.1	58.1	59.4	60.3	61.1	61.7	62.2	63.1	63.8			64.3	78
79	56.0	56.5	57.0	57.5	57.9	58.9	60.2	61.2	61.9	62.6	63.1	64.0	64.7			65.2	79
80	56.7	57.3	57.8	58.3	58.7	59.7	61.0	62.0	62.8	63.4	64.0	64.9	65.6			66.2	80
81	57.5	58.1	58.6	59.0	59.5	60.5	61.9	62.8	63.6	64.3	64.8	65.7	66.4			67.1	81
82	58.3	58.8	59.4	59.8	60.3	61.3	62.7	63.7	64.5	65.1	65.7	66.6	67.3			68.0	82
83	59.0	59.6	60.1	60.6	61.1	62.1	63.5	64.5	65.3	66.0	66.5	67.5	68.2			69.0	83
84	59.8	60.4	60.9	61.4	61.8	63.0	64.3	65.4	66.2	66.8	67.4	68.3	69.1			69.9	84
85	60.6	61.2	61.7	62.2	62.6	63.8	65.2	66.2	67.0	67.7	68.3	69.2	69.9			70.9	85
86	61.3	61.9	62.5	63.0	63.4	64.6	66.0	67.0	67.9	68.6	69.1	70.1	70.8			71.8	86
87	62.1	62.7	63.3	63.8	64.2	65.4	66.8	67.9	68.7	69.4	70.0	70.9	71.7			72.7	87
88	62.8	63.5	64.0	64.6	65.0	66.2	67.7	68.7	69.6	70.3	70.9	71.8	72.6			73.7	88
89	63.6	64.2	64.8	65.3	65.8	67.0	68.5	69.6	70.4	71.1	71.7	72.7	73.5			74.6	89
90	64.4	65.0	65.6	66.1	66.6	67.8	69.3	70.4	71.3	72.0	72.6	73.6	74.3	75.6		75.6	90
91	65.1	65.8	66.4	66.9	67.4	68.6	70.1	71.3	72.1	72.8	73.5	74.4	75.2	76.4		76.5	91
92	65.9	66.6	67.2	67.7	68.2	69.4	71.0	72.1	73.0	73.7	74.3	75.3	76.1	77.3		77.4	92
93	66.7	67.3	67.9	68.5	69.0	70.3	71.8	72.9	73.8	74.6	75.2	76.2	77.0	78.2		78.4	93
94	67.4	68.1	68.7	69.3	69.8	71.1	72.6	73.8	74.7	75.4	76.1	77.1	77.9	79.1		79.3	94
95	68.2	68.9	69.5	70.1	70.6	71.9	73.5	74.6	75.5	76.3	76.9	77.9	78.8	80.0		80.3	95
96	69.0	69.7	70.3	70.9	71.4	72.7	74.3	75.5	76.4	77.2	77.8	78.8	79.6	80.9		81.2	96
97	69.7	70.4	71.1	71.7	72.2	73.5	75.1	76.3	77.3	78.0	78.7	79.7	80.5	81.8		82.2	97
98	70.5	71.2	71.9	72.4	73.0	74.3	76.0	77.2	78.1	78.9	79.5	80.6	81.4	82.7		83.1	98
99	71.2	72.0	72.6	73.2	73.8	75.1	76.8	78.0	79.0	79.7	80.4	81.4	82.3	83.6		84.1	99
100	72.0	72.8	73.4	74.0	74.6	75.9	77.6	78.9	79.8	80.6	81.3	82.3	83.2	84.5		85.0	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
	k																

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	9.63	20.3	29.8	37.7	44.0	49.2	53.5	57.1	60.2	62.6	64.7	66.4	67.9	69.1	70.2	71.2
102	9.82	20.7	30.4	38.4	44.9	50.2	54.6	58.3	61.4	63.9	66.0	67.8	69.3	70.6	71.7	72.7
104	10.0	21.1	31.0	39.2	45.8	51.2	55.7	59.4	62.6	65.2	67.3	69.1	70.7	72.0	73.2	74.2
106	10.2	21.5	31.6	39.9	46.7	52.2	56.7	60.6	63.8	66.4	68.7	70.5	72.1	73.5	74.7	75.7
108	10.4	21.9	32.2	40.7	47.6	53.2	57.8	61.7	65.0	67.7	70.0	71.9	73.5	74.9	76.1	77.2
110	10.6	22.4	32.8	41.4	48.4	54.2	58.9	62.8	66.2	69.0	71.3	73.3	74.9	76.4	77.6	78.7
112	10.8	22.8	33.4	42.2	49.3	55.1	60.0	64.0	67.4	70.2	72.6	74.6	76.3	77.8	79.1	80.2
114	11.0	23.2	34.0	42.9	50.2	56.1	61.0	65.1	68.6	71.5	74.0	76.0	77.8	79.3	80.6	81.7
116	11.2	23.6	34.6	43.7	51.1	57.1	62.1	66.3	69.8	72.7	75.3	77.4	79.2	80.7	82.0	83.2
118	11.4	24.0	35.2	44.5	52.0	58.1	63.2	67.4	71.0	74.0	76.6	78.7	80.6	82.2	83.5	84.7
120	11.6	24.4	35.8	45.2	52.8	59.1	64.2	68.5	72.2	75.3	77.9	80.1	82.0	83.6	85.0	86.2
122	11.7	24.8	36.4	46.0	53.7	60.1	65.3	69.7	73.4	76.5	79.2	81.5	83.4	85.0	86.5	87.7
124	11.9	25.2	37.0	46.7	54.6	61.0	66.4	70.8	74.6	77.8	80.5	82.8	84.8	86.5	87.9	89.2
126	12.1	25.6	37.6	47.5	55.5	62.0	67.4	72.0	75.8	79.0	81.8	84.2	86.2	87.9	89.4	90.7
128	12.3	26.0	38.2	48.2	56.4	63.0	68.5	73.1	77.0	80.3	83.1	85.6	87.6	89.4	90.9	92.2
130	12.5	26.4	38.8	49.0	57.2	64.0	69.6	74.3	78.2	81.5	84.4	86.9	89.0	90.8	92.4	93.7
132	12.7	26.8	39.4	49.7	58.1	65.0	70.7	75.4	79.4	82.8	85.7	88.3	90.4	92.2	93.8	95.2
134	12.9	27.2	40.0	50.5	59.0	66.0	71.7	76.5	80.6	84.0	87.0	89.6	91.8	93.7	95.3	96.7
136	13.1	27.6	40.6	51.2	59.9	67.0	72.8	77.7	81.8	85.3	88.3	90.9	93.2	95.1	96.8	98.2
138	13.3	28.0	41.2	52.0	60.8	67.9	73.9	78.8	83.0	86.5	89.6	92.3	94.6	96.6	98.2	99.7
140	13.5	28.5	41.8	52.7	61.6	68.9	74.9	80.0	84.2	87.8	90.9	93.6	96.0	98.0	99.7	101.2
142	13.7	28.9	42.4	53.5	62.5	69.9	76.0	81.1	85.4	89.1	92.2	95.0	97.4	99.4	101.2	102.7
144	13.9	29.3	43.0	54.2	63.4	70.9	77.1	82.3	86.6	90.3	93.5	96.3	98.8	100.9	102.6	104.2
146	14.1	29.7	43.6	55.0	64.3	71.9	78.2	83.4	87.8	91.6	94.8	97.6	100.1	102.3	104.1	105.7
148	14.3	30.1	44.2	55.8	65.2	72.9	79.2	84.5	89.0	92.8	96.1	99.0	101.5	103.7	105.6	107.2
150	14.4	30.5	44.8	56.5	66.0	73.8	80.3	85.7	90.2	94.1	97.4	100.3	102.9	105.2	107.0	108.7
152	14.6	30.9	45.4	57.3	66.9	74.8	81.4	86.8	91.5	95.3	98.7	101.6	104.2	106.6	108.5	110.2
154	14.8	31.3	46.0	58.0	67.8	75.8	82.4	88.0	92.7	96.6	100.0	103.0	105.6	108.0	110.0	111.7
156	15.0	31.7	46.5	58.8	68.7	76.8	83.5	89.1	93.9	97.8	101.3	104.3	107.0	109.4	111.4	113.2
158	15.2	32.1	47.1	59.5	69.6	77.8	84.6	90.3	95.1	99.1	102.6	105.6	108.4	110.8	112.9	114.7
160	15.4	32.5	47.7	60.3	70.5	78.8	85.6	91.4	96.3	100.3	103.9	107.0	109.7	112.2	114.3	116.1
162	15.6	32.9	48.3	61.0	71.3	79.8	86.7	92.5	97.5	101.6	105.2	108.3	111.1	113.6	115.8	117.6
164	15.8	33.3	48.9	61.8	72.2	80.7	87.8	93.7	98.7	102.9	106.5	109.7	112.5	115.0	117.2	119.1
166	16.0	33.7	49.5	62.5	73.1	81.7	88.9	94.8	99.9	104.1	107.8	111.0	113.8	116.4	118.6	120.6
168	16.2	34.1	50.1	63.3	74.0	82.7	89.9	96.0	101.1	105.4	109.1	112.3	115.2	117.8	120.1	122.1
170	16.4	34.6	50.7	64.0	74.9	83.7	91.0	97.1	102.3	106.6	110.4	113.7	116.6	119.2	121.5	123.6
172	16.6	35.0	51.3	64.8	75.7	84.7	92.1	98.3	103.5	107.9	111.7	115.0	118.0	120.6	122.9	125.0
174	16.8	35.4	51.9	65.5	76.6	85.7	93.1	99.4	104.7	109.1	113.0	116.3	119.3	122.0	124.4	126.5
176	16.9	35.8	52.5	66.3	77.5	86.6	94.2	100.5	105.9	110.4	114.3	117.7	120.7	123.4	125.8	127.9
178	17.1	36.2	53.1	67.1	78.4	87.6	95.3	101.7	107.1	111.6	115.6	119.0	122.1	124.8	127.2	129.4
180	17.3	36.6	53.7	67.8	79.3	88.6	96.4	102.8	108.3	112.9	116.9	120.4	123.4	126.2	128.6	130.9
182	17.5	37.0	54.3	68.6	80.1	89.6	97.4	104.0	109.5	114.1	118.2	121.7	124.8	127.6	130.1	132.3
184	17.7	37.4	54.9	69.3	81.0	90.6	98.5	105.1	110.7	115.4	119.5	123.0	126.2	129.0	131.5	133.8
186	17.9	37.8	55.5	70.1	81.9	91.6	99.6	106.3	111.9	116.7	120.8	124.4	127.6	130.4	132.9	135.2
188	18.1	38.2	56.1	70.8	82.8	92.6	100.6	107.4	113.1	117.9	122.1	125.7	128.9	131.8	134.4	136.7
190	18.3	38.6	56.7	71.6	83.7	93.5	101.7	108.5	114.3	119.2	123.4	127.0	130.3	133.2	135.8	138.1
192	18.5	39.0	57.3	72.3	84.5	94.5	102.8	109.7	115.5	120.4	124.7	128.4	131.7	134.6	137.2	139.6
194	18.7	39.4	57.9	73.1	85.4	95.5	103.8	110.8	116.7	121.7	126.0	129.7	133.0	136.0	138.6	141.0
196	18.9	39.8	58.5	73.8	86.3	96.5	104.9	112.0	117.9	122.9	127.3	131.1	134.4	137.4	140.1	142.5
198	19.1	40.2	59.1	74.6	87.2	97.5	106.0	113.1	119.1	124.2	128.6	132.4	135.8	138.8	141.5	143.9
200	19.3	40.6	59.7	75.3	88.1	98.5	107.1	114.2	120.3	125.4	129.9	133.7	137.2	140.2	142.9	145.4
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
100	72.0	72.8	73.4	74.0	74.6	75.9	77.6	78.9	79.8	80.6	81.3	82.3	83.2	84.5		85.0
102	73.5	74.3	75.0	75.6	76.2	77.6	79.3	80.6	81.5	82.3	83.0	84.1	84.9	86.3		86.9
104	75.1	75.9	76.6	77.2	77.8	79.2	81.0	82.2	83.2	84.1	84.7	85.8	86.7	88.1		88.8
106	76.6	77.4	78.1	78.8	79.4	80.8	82.6	83.9	85.0	85.8	86.5	87.6	88.5	89.8		90.7
108	78.1	78.9	79.7	80.4	81.0	82.5	84.3	85.6	86.7	87.5	88.2	89.4	90.3	91.6		92.6
110	79.7	80.5	81.3	81.9	82.6	84.1	86.0	87.3	88.4	89.3	90.0	91.1	92.0	93.4	94.5	94.5
112	81.2	82.0	82.8	83.5	84.1	85.7	87.6	89.0	90.1	91.0	91.7	92.9	93.8	95.2	96.3	96.4
114	82.7	83.6	84.4	85.1	85.7	87.4	89.3	90.7	91.8	92.7	93.5	94.7	95.6	97.0	98.1	98.3
116	84.2	85.1	86.0	86.7	87.3	89.0	91.0	92.4	93.6	94.5	95.2	96.4	97.4	98.8	99.9	100.2
118	85.8	86.7	87.5	88.3	88.9	90.6	92.7	94.1	95.3	96.2	97.0	98.2	99.2	100.6	101.7	102.1
120	87.3	88.2	89.1	89.8	90.5	92.3	94.3	95.8	97.0	97.9	98.7	100.0	100.9	102.4	103.6	104.0
122	88.8	89.8	90.7	91.4	92.1	93.9	96.0	97.6	98.7	99.7	100.5	101.7	102.7	104.2	105.4	105.9
124	90.3	91.3	92.2	93.0	93.7	95.5	97.7	99.3	100.5	101.4	102.2	103.5	104.5	106.0	107.2	107.9
126	91.9	92.9	93.8	94.6	95.3	97.2	99.4	101.0	102.2	103.2	104.0	105.3	106.3	107.8	109.0	109.8
128	93.4	94.4	95.4	96.2	96.9	98.8	101.1	102.7	103.9	104.9	105.7	107.0	108.1	109.6	110.8	111.7
130	94.9	96.0	96.9	97.8	98.5	100.4	102.7	104.4	105.6	106.6	107.5	108.8	109.9	111.4	112.6	113.6
132	96.4	97.5	98.5	99.4	100.1	102.1	104.4	106.1	107.4	108.4	109.2	110.6	111.7	113.3	114.5	115.5
134	98.0	99.1	100.1	100.9	101.7	103.7	106.1	107.8	109.1	110.1	111.0	112.4	113.4	115.1	116.3	117.4
136	99.5	100.6	101.6	102.5	103.3	105.3	107.8	109.5	110.8	111.9	112.8	114.2	115.2	116.9	118.1	119.4
138	101.0	102.2	103.2	104.1	104.9	107.0	109.5	111.2	112.6	113.6	114.5	115.9	117.0	118.7	119.9	121.3
140	102.5	103.7	104.7	105.7	106.5	108.6	111.1	112.9	114.3	115.4	116.3	117.7	118.8	120.5	121.8	123.2
142	104.1	105.3	106.3	107.3	108.1	110.3	112.8	114.6	116.0	117.1	118.0	119.5	120.6	122.3	123.6	125.1
144	105.6	106.8	107.9	108.8	109.7	111.9	114.5	116.4	117.8	118.9	119.8	121.3	122.4	124.1	125.4	127.0
146	107.1	108.3	109.4	110.4	111.3	113.5	116.2	118.1	119.5	120.6	121.6	123.1	124.2	125.9	127.2	129.0
148	108.6	109.9	111.0	112.0	112.9	115.2	117.9	119.8	121.2	122.4	123.3	124.8	126.0	127.8	129.1	130.9
150	110.1	111.4	112.6	113.6	114.5	116.8	119.5	121.5	123.0	124.1	125.1	126.6	127.8	129.6	130.9	132.8
152	111.7	113.0	114.1	115.2	116.1	118.4	121.2	123.2	124.7	125.9	126.9	128.4	129.6	131.4	132.7	134.8
154	113.2	114.5	115.7	116.8	117.7	120.1	122.9	124.9	126.4	127.6	128.6	130.2	131.4	133.2	134.5	136.7
156	114.7	116.1	117.3	118.3	119.3	121.7	124.6	126.6	128.2	129.4	130.4	132.0	133.2	135.0	136.4	138.6
158	116.2	117.6	118.8	119.9	120.9	123.4	126.3	128.4	129.9	131.2	132.2	133.8	135.0	136.8	138.2	140.5
160	117.7	119.1	120.4	121.5	122.5	125.0	128.0	130.1	131.7	132.9	133.9	135.6	136.8	138.7	140.0	142.5
162	119.3	120.7	121.9	123.1	124.1	126.6	129.7	131.8	133.4	134.7	135.7	137.3	138.6	140.5	141.9	144.4
164	120.8	122.2	123.5	124.7	125.7	128.3	131.3	133.5	135.1	136.4	137.5	139.1	140.4	142.3	143.7	146.3
166	122.3	123.8	125.1	126.2	127.3	129.9	133.0	135.2	136.9	138.2	139.3	140.9	142.2	144.1	145.5	148.3
168	123.8	125.3	126.6	127.8	128.9	131.6	134.7	136.9	138.6	139.9	141.0	142.7	144.0	145.9	147.4	150.2
170	125.3	126.8	128.2	129.4	130.5	133.2	136.4	138.7	140.4	141.7	142.8	144.5	145.8	147.8	149.2	152.1
172	126.8	128.4	129.7	131.0	132.1	134.8	138.1	140.4	142.1	143.5	144.6	146.3	147.6	149.6	151.1	154.1
174	128.3	129.9	131.3	132.6	133.7	136.5	139.8	142.1	143.9	145.2	146.3	148.1	149.4	151.4	152.9	156.0
176	129.8	131.4	132.9	134.1	135.3	138.1	141.5	143.8	145.6	147.0	148.1	149.9	151.2	153.2	154.7	158.0
178	131.4	133.0	134.4	135.7	136.9	139.7	143.2	145.5	147.3	148.7	149.9	151.7	153.0	155.1	156.6	159.9
180	132.9	134.5	136.0	137.3	138.5	141.4	144.8	147.3	149.1	150.5	151.7	153.5	154.9	156.9	158.4	161.8
182	134.3	136.0	137.5	138.9	140.1	143.0	146.5	149.0	150.8	152.3	153.4	155.3	156.7	158.7	160.2	163.8
184	135.8	137.6	139.1	140.4	141.7	144.7	148.2	150.7	152.6	154.0	155.2	157.1	158.5	160.6	162.1	165.7
186	137.3	139.1	140.6	142.0	143.2	146.3	149.9	152.4	154.3	155.8	157.0	158.9	160.3	162.4	163.9	167.7
188	138.8	140.6	142.2	143.6	144.8	147.9	151.6	154.2	156.1	157.6	158.8	160.7	162.1	164.2	165.8	169.6
190	140.2	142.2	143.8	145.2	146.4	149.6	153.3	155.9	157.8	159.3	160.6	162.5	163.9	166.0	167.6	171.5
192	141.7	143.7	145.3	146.7	148.0	151.2	155.0	157.6	159.6	161.1	162.3	164.3	165.7	167.9	169.5	173.5
194	143.2	145.2	146.9	148.3	149.6	152.8	156.7	159.3	161.3	162.9	164.1	166.1	167.5	169.7	171.3	175.4
196	144.7	146.7	148.4	149.9	151.2	154.5	158.4	161.0	163.1	164.6	165.9	167.9	169.4	171.5	173.1	177.4
198	146.1	148.2	150.0	151.5	152.8	156.1	160.0	162.8	164.8	166.4	167.7	169.7	171.2	173.4	175.0	179.3
200	147.6	149.7	151.5	153.0	154.4	157.8	161.7	164.5	166.6	168.2	169.5	171.5	173.0	175.2	176.8	181.3
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N	k																N
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
200	19.3	40.6	59.7	75.3	88.1	98.5	107.1	114.2	120.3	125.4	129.9	133.7	137.2	140.2	142.9	145.4	200
202	19.5	41.1	60.3	76.1	88.9	99.4	108.1	115.4	121.5	126.7	131.2	135.1	138.5	141.6	144.4	149.9	202
204	19.6	41.5	60.9	76.8	89.8	100.4	109.2	116.5	122.7	127.9	132.5	136.4	139.9	143.0	145.8	148.3	204
206	19.8	41.9	61.5	77.6	90.7	101.4	110.3	117.7	123.9	129.2	133.8	137.7	141.3	144.4	147.2	149.8	206
208	20.0	42.3	62.1	78.4	91.6	102.4	111.3	118.8	125.1	130.4	135.1	139.1	142.6	145.8	148.7	151.2	208
210	20.2	42.7	62.7	79.1	92.5	103.4	112.4	120.0	126.3	131.7	136.3	140.4	144.0	147.2	150.1	152.7	210
212	20.4	43.1	63.3	79.9	93.3	104.4	113.5	121.1	127.6	133.0	137.6	141.8	145.4	148.6	151.5	154.1	212
214	20.6	43.5	63.9	80.6	94.2	105.4	114.6	122.2	128.8	134.2	138.9	143.1	146.8	150.0	152.9	155.6	214
216	20.8	43.9	64.5	81.4	95.1	106.3	115.6	123.4	130.0	135.5	140.2	144.4	148.1	151.4	154.4	157.0	216
218	21.0	44.3	65.0	82.1	96.0	107.3	116.7	124.5	131.2	136.7	141.5	145.8	149.5	152.8	155.8	158.5	218
220	21.2	44.7	65.6	82.9	96.9	108.3	117.8	125.7	132.4	138.0	142.8	147.1	150.9	154.2	157.2	159.9	220
222	21.4	45.1	66.2	83.6	97.8	109.3	118.8	126.8	133.6	139.2	144.1	148.4	152.2	155.6	158.7	161.4	222
224	21.6	45.5	66.8	84.4	98.6	110.3	119.9	128.0	134.8	140.5	145.4	149.8	153.6	157.0	160.1	162.8	224
226	21.8	45.9	67.4	85.1	99.5	111.3	121.0	129.1	136.0	141.7	146.7	151.1	155.0	158.4	161.5	164.3	226
228	22.0	46.3	68.0	85.9	100.4	112.2	122.0	130.2	137.2	143.0	148.0	152.5	156.4	159.8	162.9	165.8	228
230	22.1	46.7	68.6	86.6	101.3	113.2	123.1	131.4	138.4	144.2	149.3	153.8	157.7	161.2	164.4	167.2	230
232	22.3	47.2	69.2	87.4	102.2	114.2	124.2	132.5	139.6	145.5	150.6	155.1	159.1	162.6	165.8	168.7	232
234	22.5	47.6	69.8	88.1	103.0	115.2	125.3	133.7	140.8	146.8	151.9	156.5	160.5	164.0	167.2	170.1	234
236	22.7	48.0	70.4	88.9	103.9	116.2	126.3	134.8	142.0	148.0	153.2	157.8	161.8	165.4	168.7	171.6	236
238	22.9	48.4	71.0	89.7	104.8	117.2	127.4	136.0	143.2	149.3	154.5	159.1	163.2	166.8	170.1	173.0	238
240	23.1	48.8	71.6	90.4	105.7	118.2	128.5	137.1	144.4	150.5	155.8	160.5	164.6	168.2	171.5	174.5	240
242	23.3	49.2	72.2	91.2	106.6	119.1	129.5	138.2	145.6	151.8	157.1	161.8	166.0	169.6	173.0	175.9	242
244	23.5	49.6	72.8	91.9	107.4	120.1	130.6	139.4	146.8	153.0	158.4	163.2	167.3	171.1	174.4	177.4	244
246	23.7	50.0	73.4	92.7	108.3	121.1	131.7	140.5	148.0	154.3	159.7	164.5	168.7	172.5	175.8	178.8	246
248	23.9	50.4	74.0	93.4	109.2	122.1	132.8	141.7	149.2	155.5	161.0	165.8	170.1	173.9	177.2	180.3	248
250	24.1	50.8	74.6	94.2	110.1	123.1	133.8	142.8	150.4	156.8	162.3	167.2	171.4	175.3	178.7	181.7	250
	.096	.204	.298	.376	.440	.492	.536	.572	.602	.626	.650	.668	.686	.700	.714	.728	
300	28.9	61.0	89.5	113.0	132.1	147.7	160.6	171.4	180.5	188.1	194.8	200.6	205.7	210.3	214.4	218.1	300
	.096	.202	.298	.376	.440	.492	.536	.570	.602	.628	.648	.668	.686	.702	.714	.726	
350	33.7	71.1	104.4	131.8	154.1	172.3	187.4	199.9	210.6	219.5	227.2	234.0	240.0	245.4	250.1	254.4	350
	.096	.204	.300	.378	.440	.492	.534	.572	.602	.628	.650	.670	.686	.700	.716	.728	
400	38.5	81.3	119.4	150.7	176.1	196.9	214.1	228.5	240.7	250.9	259.7	267.5	274.3	280.4	285.9	290.8	400
	.096	.204	.298	.376	.440	.492	.536	.572	.600	.626	.650	.668	.686	.702	.714	.726	
450	43.3	91.5	134.3	169.5	198.1	221.5	240.9	257.1	270.7	282.2	292.2	300.9	308.6	315.5	321.6	327.1	450
	.096	.202	.298	.376	.442	.494	.534	.570	.602	.628	.648	.668	.686	.700	.714	.728	
500	48.1	101.6	149.2	188.3	220.2	246.2	267.6	285.6	300.8	313.6	324.6	334.3	342.9	350.5	357.3	363.5	500
	.097	.203	.298	.377	.440	.492	.536	.571	.602	.627	.650	.669	.686	.701	.715	.727	
600	57.8	121.9	179.0	226.0	264.2	295.4	321.2	342.7	361.0	376.3	389.6	401.2	411.5	420.6	428.8	436.2	600
	.096	.204	.299	.377	.440	.492	.535	.572	.602	.627	.649	.669	.686	.701	.715	.727	
700	67.4	142.3	208.9	263.7	308.2	344.6	374.7	399.9	421.2	439.0	454.5	468.1	480.1	490.7	500.3	508.9	700
	.096	.203	.298	.377	.441	.493	.535	.571	.601	.627	.649	.668	.685	.701	.714	.727	
800	77.0	162.6	238.7	301.4	352.3	393.9	428.2	457.0	481.3	501.7	519.4	534.9	548.6	560.8	571.7	581.6	800
	.097	.203	.299	.376	.440	.492	.536	.571	.602	.627	.650	.669	.686	.701	.715	.727	
900	86.7	182.9	268.6	339.0	396.3	443.1	481.8	514.1	541.5	564.4	584.4	601.8	617.2	630.9	643.2	654.3	900
	.096	.203	.298	.377	.440	.492	.535	.571	.602	.628	.649	.669	.686	.701	.715	.727	
1000	96.3	203.2	298.4	376.7	440.3	492.3	535.3	571.2	601.7	627.2	649.3	668.7	685.8	701.0	714.7	727.0	1000
	.096	.204	.298	.377	.441	.493	.535	.572	.601	.627	.649	.668	.686	.701	.714	.727	
1100	105.9	223.6	328.2	414.4	484.4	541.6	588.8	628.4	661.8	689.9	714.2	735.5	754.4	771.1	786.1	799.7	1100
	.0963	.2032	.2984	.3767	.4403	.4923	.5353	.5712	.6017	.6272	.6493	.6687	.6858	.7010	.7147	.7270	
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	N
	k																

N	k															k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
147.6	149.7	151.5	153.0	154.4	157.8	161.7	164.5	166.6	168.2	169.5	171.5	173.0	175.2	176.8	181.3	200	
149.1	151.2	153.0	154.6	156.0	159.4	163.4	166.2	168.3	169.9	171.2	173.3	174.8	177.0	178.7	183.2	202	
150.6	152.6	154.5	156.2	157.6	161.0	165.1	167.9	170.0	171.7	173.0	175.1	176.6	178.9	180.5	185.2	204	
152.1	154.1	156.1	157.7	159.2	162.7	166.8	169.7	171.8	173.5	174.8	176.9	178.4	180.7	182.4	187.1	206	
153.5	155.6	157.6	159.3	160.7	164.3	168.5	171.4	173.5	175.2	176.6	178.7	180.2	182.6	184.2	189.1	208	
155.0	157.1	159.1	160.9	162.3	165.9	170.2	173.1	175.3	177.0	178.4	180.5	182.1	184.4	186.1	191.0	210	
156.5	158.6	160.6	162.4	163.9	167.6	171.9	174.8	177.0	178.8	180.1	182.3	183.9	186.2	187.9	193.0	212	
158.0	160.1	162.1	163.9	165.5	169.2	173.6	176.6	178.8	180.5	181.9	184.1	185.7	188.1	189.8	194.9	214	
159.4	161.6	163.6	165.5	167.1	170.8	175.2	178.3	180.5	182.3	183.7	185.9	187.5	189.9	191.6	196.9	216	
160.9	163.1	165.2	167.0	168.7	172.5	176.9	180.0	182.3	184.1	185.5	187.7	189.3	191.7	193.5	198.8	218	
162.4	164.6	166.7	168.5	170.3	174.1	178.6	181.7	184.0	185.8	187.3	189.5	191.2	193.6	195.3	200.8	220	
163.9	166.1	168.2	170.1	171.8	175.7	180.3	183.5	185.8	187.6	189.1	191.3	193.0	195.4	197.2	202.7	222	
165.3	167.6	169.7	171.6	173.4	177.4	182.0	185.2	187.6	189.4	190.9	193.1	194.8	197.3	199.0	204.7	224	
166.8	169.1	171.2	173.1	174.9	179.0	183.7	186.9	189.3	191.1	192.6	194.9	196.6	199.1	200.9	206.6	226	
168.3	170.6	172.7	174.7	176.5	180.6	185.4	188.6	191.1	192.9	194.4	196.7	198.4	200.9	202.7	208.6	228	
169.8	172.1	174.2	176.2	178.0	182.3	187.1	190.4	192.8	194.7	196.2	198.5	200.3	202.8	204.6	210.5	230	
171.2	173.6	175.8	177.7	179.6	183.9	188.8	192.1	194.6	196.5	198.0	200.3	202.1	204.6	206.4	212.5	232	
172.7	175.1	177.3	179.3	181.1	185.5	190.4	193.8	196.3	198.2	199.8	202.1	203.9	206.5	208.3	214.4	234	
174.2	176.6	178.8	180.8	182.7	187.2	192.1	195.6	198.1	200.0	201.6	204.0	205.7	208.3	210.2	216.4	236	
175.7	178.1	180.3	182.3	184.2	188.8	193.8	197.3	199.8	201.8	203.4	205.8	207.6	210.1	212.0	218.3	238	
177.2	179.6	181.8	183.9	185.8	190.4	195.5	199.0	201.6	203.6	205.1	207.6	209.4	212.0	213.9	220.3	240	
178.6	181.1	183.3	185.4	187.3	192.1	197.2	200.7	203.3	205.3	206.9	209.4	211.2	213.8	215.7	222.3	242	
180.1	182.6	184.8	186.9	188.8	193.7	198.9	202.5	205.1	207.1	208.7	211.2	213.0	215.7	217.6	224.2	244	
181.6	184.1	186.4	188.5	190.4	195.3	200.6	204.2	206.8	208.9	210.5	213.0	214.9	217.5	219.4	226.2	246	
183.1	185.6	187.9	190.0	191.9	196.9	202.3	205.9	208.6	210.6	212.3	214.8	216.7	219.4	221.3	228.1	248	
184.5	187.1	189.4	191.5	193.5	198.6	203.9	207.6	210.3	212.4	214.1	216.6	218.5	221.2	223.1	230.1	250	
.738	.748	.758	.766	.774	.794	.844	.864	.878	.888	.896	.908	.916	.926	.932	.982		
221.4	224.5	227.3	229.8	232.2	238.3	246.1	250.8	254.2	256.8	258.9	262.0	264.3	267.5	269.7	279.2	300	
.738	.748	.756	.766	.774	.794	.820	.862	.878	.890	.898	.910	.918	.928	.936	.984		
258.3	261.9	265.1	268.1	270.9	278.0	287.1	293.9	298.1	301.3	303.8	307.5	310.2	313.9	316.5	328.4	350	
.740	.748	.758	.766	.774	.794	.820	.840	.876	.888	.898	.912	.920	.932	.938	.988		
295.3	299.3	303.0	306.4	309.6	317.7	328.1	335.9	341.9	345.7	348.7	353.1	356.2	360.5	363.4	377.8	400	
.738	.748	.758	.766	.774	.794	.820	.840	.856	.890	.898	.912	.922	.932	.940	.990		
332.2	336.7	340.9	344.7	348.3	357.4	369.1	377.9	384.7	390.2	393.6	398.7	402.3	407.1	410.4	427.3	450	
.738	.748	.758	.768	.774	.794	.820	.838	.854	.866	.900	.914	.922	.936	.942	.994		
369.1	374.1	378.8	383.1	387.0	397.1	410.1	419.8	427.4	433.5	438.6	444.4	448.4	453.9	457.5	477.0	500	
.738	.749	.757	.766	.774	.795	.820	.840	.855	.867	.877	.913	.925	.937	.944	.994		
442.9	449.0	454.5	459.7	464.4	476.6	492.1	503.8	512.9	520.2	526.3	535.7	540.9	547.6	551.9	576.4	600	
.738	.748	.758	.766	.774	.794	.821	.840	.855	.867	.877	.893	.924	.938	.946	.997		
516.7	523.8	530.3	536.3	541.8	556.0	574.2	587.8	598.4	606.9	614.0	625.0	633.3	641.4	646.5	676.1	700	
.738	.748	.758	.766	.774	.794	.820	.839	.855	.868	.877	.893	.905	.939	.948	.998		
590.5	598.6	606.1	612.9	619.2	635.4	656.2	671.7	683.9	693.7	701.7	714.3	723.8	735.3	741.3	775.9	800	
.738	.749	.757	.766	.774	.795	.820	.840	.855	.867	.877	.893	.905	.940	.949	1.000		
664.3	673.5	681.8	689.5	696.6	714.9	738.2	755.7	769.4	780.4	789.4	803.6	814.3	829.3	836.2	875.9	900	
.738	.748	.758	.766	.774	.794	.820	.840	.854	.867	.878	.893	.904	.921	.949	1.001		
738.1	748.3	757.6	766.1	774.0	794.3	820.2	839.7	854.8	867.1	877.2	892.9	904.7	921.4	931.1	976.0	1000	
.738	.748	.757	.766	.774	.794	.821	.839	.855	.867	.877	.893	.905	.926	.949	1.000		
811.9	823.1	833.3	842.7	851.4	873.7	902.3	923.6	940.3	953.8	964.9	982.2	995.2	1014.	1026.	1076.	1100	
.7381	.7483	.7576	.7661	.7740	.7943	.8202	.8397	.8548	.8671	.8772	.8929	.9047	.9214	.9328			
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	k																

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.190															
3	.309	.535														
4	.432	.765	.992													
5	.540	1.00	1.31	1.52												
6	.649	1.24	1.64	1.91	2.11											
7	.757	1.49	1.97	2.31	2.55	2.74										
8	.865	1.73	2.31	2.71	3.00	3.23	3.40									
9	.973	1.98	2.65	3.12	3.46	3.72	3.93	4.09								
10	1.08	2.20	3.00	3.54	3.93	4.22	4.46	4.65	4.81							
11	1.19	2.42	3.34	3.96	4.40	4.73	4.99	5.21	5.39	5.54						
12	1.30	2.64	3.69	4.38	4.87	5.25	5.54	5.77	5.97	6.14	6.29					
13	1.41	2.86	4.03	4.80	5.35	5.77	6.09	6.35	6.56	6.75	6.91	7.05				
14	1.51	3.08	4.38	5.23	5.83	6.29	6.64	6.93	7.16	7.36	7.54	7.69	7.82			
15	1.62	3.30	4.72	5.65	6.32	6.81	7.20	7.51	7.77	7.98	8.17	8.33	8.48	8.61		
16	1.73	3.52	5.07	6.07	6.80	7.34	7.76	8.10	8.37	8.61	8.81	8.98	9.14	9.28	9.41	
17	1.84	3.74	5.39	6.50	7.29	7.87	8.33	8.69	8.98	9.23	9.45	9.64	9.80	9.95	10.1	10.2
18	1.95	3.96	5.70	6.93	7.77	8.40	8.89	9.28	9.60	9.87	10.1	10.3	10.5	10.6	10.8	10.9
19	2.05	4.18	6.02	7.35	8.26	8.94	9.46	9.88	10.2	10.5	10.7	11.0	11.1	11.3	11.5	11.6
20	2.16	4.40	6.34	7.77	8.75	9.47	10.0	10.5	10.8	11.1	11.4	11.6	11.8	12.0	12.2	12.3
21	2.27	4.62	6.65	8.20	9.24	10.0	10.6	11.1	11.5	11.8	12.1	12.3	12.5	12.7	12.9	13.0
22	2.38	4.84	6.97	8.62	9.72	10.5	11.2	11.7	12.1	12.4	12.7	13.0	13.2	13.4	13.6	13.7
23	2.49	5.06	7.29	9.04	10.2	11.1	11.8	12.3	12.7	13.1	13.4	13.6	13.9	14.1	14.3	14.4
24	2.59	5.28	7.60	9.47	10.7	11.6	12.3	12.9	13.3	13.7	14.0	14.3	14.6	14.8	15.0	15.1
25	2.70	5.50	7.92	9.89	11.2	12.2	12.9	13.5	14.0	14.4	14.7	15.0	15.3	15.5	15.7	15.9
26	2.81	5.72	8.24	10.3	11.7	12.7	13.5	14.1	14.6	15.0	15.4	15.7	15.9	16.2	16.4	16.6
27	2.92	5.94	8.55	10.7	12.2	13.2	14.1	14.7	15.2	15.7	16.0	16.4	16.6	16.9	17.1	17.3
28	3.03	6.16	8.87	11.1	12.6	13.8	14.6	15.3	15.9	16.3	16.7	17.1	17.3	17.6	17.8	18.0
29	3.13	6.38	9.19	11.5	13.1	14.3	15.2	15.9	16.5	17.0	17.4	17.7	18.0	18.3	18.5	18.8
30	3.24	6.60	9.50	11.9	13.6	14.9	15.8	16.6	17.2	17.7	18.1	18.4	18.7	19.0	19.3	19.5
31	3.35	6.81	9.82	12.3	14.1	15.4	16.4	17.2	17.8	18.3	18.7	19.1	19.4	19.7	20.0	20.2
32	3.46	7.03	10.1	12.7	14.6	15.9	17.0	17.8	18.4	19.0	19.4	19.8	20.1	20.4	20.7	20.9
33	3.57	7.25	10.5	13.1	15.1	16.5	17.5	18.4	19.1	19.6	20.1	20.5	20.9	21.2	21.4	21.7
34	3.68	7.47	10.8	13.4	15.6	17.0	18.1	19.0	19.7	20.3	20.8	21.2	21.6	21.9	22.2	22.4
35	3.78	7.69	11.1	13.8	16.0	17.5	18.7	19.6	20.4	21.0	21.5	21.9	22.3	22.6	22.9	23.2
36	3.89	7.91	11.4	14.2	16.5	18.1	19.3	20.2	21.0	21.6	22.1	22.6	23.0	23.3	23.6	23.9
37	4.00	8.13	11.7	14.6	17.0	18.6	19.9	20.8	21.6	22.3	22.8	23.3	23.7	24.0	24.4	24.6
38	4.11	8.35	12.0	15.0	17.4	19.2	20.4	21.5	22.3	23.0	23.5	24.0	24.4	24.8	25.1	25.4
39	4.22	8.57	12.4	15.4	17.9	19.7	21.0	22.1	22.9	23.6	24.2	24.7	25.1	25.5	25.8	26.1
40	4.32	8.79	12.7	15.8	18.4	20.2	21.6	22.7	23.6	24.3	24.9	25.4	25.8	26.2	26.6	26.9
41	4.43	9.01	13.0	16.2	18.8	20.8	22.2	23.3	24.2	25.0	25.6	26.1	26.5	26.9	27.3	27.6
42	4.54	9.23	13.3	16.6	19.3	21.3	22.8	23.9	24.9	25.6	26.3	26.8	27.3	27.7	28.0	28.3
43	4.65	9.45	13.6	17.0	19.7	21.8	23.3	24.5	25.5	26.3	26.9	27.5	28.0	28.4	28.8	29.1
44	4.76	9.67	13.9	17.4	20.2	22.4	23.9	25.2	26.1	27.0	27.6	28.2	28.7	29.1	29.5	29.8
45	4.86	9.89	14.3	17.8	20.6	22.9	24.5	25.8	26.8	27.6	28.3	28.9	29.4	29.9	30.2	30.6
46	4.97	10.1	14.6	18.2	21.1	23.4	25.1	26.4	27.4	28.3	29.0	29.6	30.1	30.6	31.0	31.3
47	5.08	10.3	14.9	18.6	21.6	23.9	25.6	27.0	28.1	29.0	29.7	30.3	30.9	31.3	31.7	32.1
48	5.19	10.6	15.2	19.0	22.0	24.5	26.2	27.6	28.7	29.6	30.4	31.0	31.6	32.0	32.5	32.8
49	5.30	10.8	15.5	19.4	22.5	25.0	26.8	28.2	29.4	30.3	31.1	31.7	32.3	32.8	33.2	33.6
50	5.40	11.0	15.8	19.8	22.9	25.5	27.4	28.8	30.0	31.0	31.8	32.4	33.0	33.5	34.0	34.3
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
1																.0152	1
2																.190	2
3																.535	3
4																.992	4
5																1.52	5
6																2.11	6
7																2.74	7
8																3.40	8
9																4.09	9
10																4.81	10
11																5.54	11
12																6.29	12
13																7.05	13
14																7.82	14
15																8.61	15
16																9.41	16
17																10.2	17
18	11.0															11.0	18
19	11.7	11.8														11.8	19
20	12.4	12.6	12.7													12.7	20
21	13.1	13.3	13.4	13.5												13.5	21
22	13.9	14.0	14.1	14.2	14.3											14.3	22
23	14.6	14.7	14.9	15.0	15.1											15.2	23
24	15.3	15.4	15.6	15.7	15.8											16.0	24
25	16.0	16.2	16.3	16.4	16.6	16.9										16.9	25
26	16.8	16.9	17.1	17.2	17.3	17.7										17.8	26
27	17.5	17.6	17.8	17.9	18.1	18.4										18.6	27
28	18.2	18.4	18.5	18.7	18.8	19.2										19.5	28
29	18.9	19.1	19.3	19.4	19.6	19.9										20.4	29
30	19.7	19.9	20.0	20.2	20.3	20.7	21.2									21.2	30
31	20.4	20.6	20.8	20.9	21.1	21.5	22.0									22.1	31
32	21.2	21.4	21.5	21.7	21.9	22.3	22.8									23.0	32
33	21.9	22.1	22.3	22.5	22.6	23.0	23.6									23.9	33
34	22.6	22.8	23.0	23.2	23.4	23.8	24.4									24.8	34
35	23.4	23.6	23.8	24.0	24.1	24.6	25.2	25.6								25.6	35
36	24.1	24.4	24.6	24.7	24.9	25.4	26.0	26.4								26.5	36
37	24.9	25.1	25.3	25.5	25.7	26.1	26.8	27.3								27.4	37
38	25.6	25.9	26.1	26.3	26.5	26.9	27.6	28.1								28.3	38
39	26.4	26.6	26.8	27.0	27.2	27.7	28.4	28.9								29.2	39
40	27.1	27.4	27.6	27.8	28.0	28.5	29.2	29.7	30.1							30.1	40
41	27.9	28.1	28.4	28.6	28.8	29.3	30.0	30.5	30.9							31.0	41
42	28.6	28.9	29.1	29.4	29.6	30.1	30.8	31.3	31.8							31.9	42
43	29.4	29.7	29.9	30.1	30.3	30.9	31.6	32.1	32.6							32.8	43
44	30.1	30.4	30.7	30.9	31.1	31.7	32.4	32.9	33.4							33.7	44
45	30.9	31.2	31.4	31.7	31.9	32.5	33.2	33.8	34.2	34.6						34.6	45
46	31.7	31.9	32.2	32.4	32.7	33.2	34.0	34.6	35.1	35.5						35.6	46
47	32.4	32.7	33.0	33.2	33.5	34.0	34.8	35.4	35.9	36.3						36.5	47
48	33.2	33.5	33.8	34.0	34.2	34.8	35.6	36.2	36.7	37.2						37.4	48
49	33.9	34.2	34.5	34.8	35.0	35.6	36.4	37.1	37.6	38.0						38.3	49
50	34.7	35.0	35.3	35.6	35.8	36.4	37.2	37.9	38.4	38.8	39.2					39.2	50
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
	k																N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	5.40	11.0	15.8	19.8	22.9	25.5	27.4	28.8	30.0	31.0	31.8	32.4	33.0	33.5	34.0	34.3
51	5.51	11.2	16.2	20.2	23.4	26.0	27.9	29.4	30.6	31.6	32.4	33.1	33.7	34.2	34.7	35.1
52	5.62	11.4	16.5	20.6	23.9	26.5	28.5	30.1	31.3	32.3	33.1	33.8	34.5	35.0	35.4	35.9
53	5.73	11.7	16.8	21.0	24.3	27.0	29.1	30.7	31.9	33.0	33.8	34.6	35.2	35.7	36.2	36.6
54	5.84	11.9	17.1	21.4	24.8	27.6	29.7	31.3	32.6	33.6	34.5	35.3	35.9	36.4	36.9	37.4
55	5.94	12.1	17.4	21.8	25.2	28.1	30.2	31.9	33.2	34.3	35.2	36.0	36.6	37.2	37.7	38.1
56	6.05	12.3	17.7	22.1	25.7	28.6	30.8	32.5	33.9	35.0	35.9	36.7	37.3	37.9	38.4	38.9
57	6.16	12.5	18.1	22.5	26.2	29.1	31.4	33.1	34.5	35.6	36.6	37.4	38.1	38.7	39.2	39.6
58	6.27	12.8	18.4	22.9	26.6	29.6	32.0	33.7	35.1	36.3	37.3	38.1	38.8	39.4	39.9	40.4
59	6.38	13.0	18.7	23.3	27.1	30.1	32.5	34.3	35.8	37.0	38.0	38.8	39.5	40.1	40.7	41.1
60	6.49	13.2	19.0	23.7	27.5	30.6	33.1	34.9	36.4	37.6	38.7	39.5	40.2	40.9	41.4	41.9
61	6.59	13.4	19.3	24.1	28.0	31.1	33.7	35.5	37.1	38.3	39.3	40.2	41.0	41.6	42.2	42.7
62	6.70	13.6	19.6	24.5	28.4	31.6	34.2	36.2	37.7	39.0	40.0	40.9	41.7	42.3	42.9	43.4
63	6.81	13.8	20.0	24.9	28.9	32.2	34.8	36.8	38.4	39.6	40.7	41.6	42.4	43.1	43.7	44.2
64	6.92	14.1	20.3	25.3	29.4	32.7	35.4	37.4	39.0	40.3	41.4	42.3	43.1	43.8	44.4	44.9
65	7.03	14.3	20.6	25.7	29.8	33.2	35.9	38.0	39.6	41.0	42.1	43.1	43.9	44.6	45.2	45.7
66	7.13	14.5	20.9	26.1	30.3	33.7	36.5	38.6	40.3	41.7	42.8	43.8	44.6	45.3	45.9	46.5
67	7.24	14.7	21.2	26.5	30.7	34.2	37.0	39.2	40.9	42.3	43.5	44.5	45.3	46.0	46.7	47.2
68	7.35	14.9	21.5	26.9	31.2	34.7	37.6	39.8	41.5	43.0	44.2	45.2	46.0	46.8	47.4	48.0
69	7.46	15.2	21.9	27.3	31.7	35.2	38.1	40.4	42.2	43.6	44.9	45.9	46.8	47.5	48.2	48.7
70	7.57	15.4	22.2	27.7	32.1	35.7	38.7	41.0	42.8	44.3	45.6	46.6	47.5	48.3	48.9	49.5
71	7.67	15.6	22.5	28.1	32.6	36.2	39.2	41.6	43.5	45.0	46.2	47.3	48.2	49.0	49.7	50.3
72	7.78	15.8	22.8	28.5	33.0	36.7	39.8	42.2	44.1	45.6	46.9	48.0	48.9	49.7	50.4	51.0
73	7.89	16.0	23.1	28.9	33.5	37.3	40.3	42.8	44.7	46.3	47.6	48.7	49.7	50.5	51.2	51.8
74	8.00	16.3	23.4	29.3	34.0	37.8	40.9	43.4	45.4	47.0	48.3	49.4	50.4	51.2	51.9	52.6
75	8.11	16.5	23.8	29.7	34.4	38.3	41.4	44.0	46.0	47.6	49.0	50.1	51.1	51.9	52.7	53.3
76	8.21	16.7	24.1	30.1	34.9	38.8	42.0	44.6	46.6	48.3	49.7	50.8	51.8	52.7	53.4	54.1
77	8.32	16.9	24.4	30.5	35.3	39.3	42.6	45.2	47.3	49.0	50.4	51.6	52.6	53.4	54.2	54.8
78	8.43	17.1	24.7	30.8	35.8	39.8	43.1	45.8	47.9	49.6	51.1	52.3	53.3	54.2	54.9	55.6
79	8.54	17.4	25.0	31.2	36.3	40.3	43.7	46.4	48.5	50.3	51.7	53.0	54.0	54.9	55.7	56.4
80	8.65	17.6	25.3	31.6	36.7	40.8	44.2	47.0	49.2	51.0	52.4	53.7	54.7	55.6	56.4	57.1
81	8.76	17.8	25.7	32.0	37.2	41.3	44.8	47.6	49.8	51.6	53.1	54.4	55.5	56.4	57.2	57.9
82	8.86	18.0	26.0	32.4	37.6	41.8	45.3	48.2	50.4	52.3	53.8	55.1	56.2	57.1	57.9	58.7
83	8.97	18.2	26.3	32.8	38.1	42.4	45.9	48.8	51.1	52.9	54.5	55.8	56.9	57.9	58.7	59.4
84	9.08	18.5	26.6	33.2	38.5	42.9	46.4	49.4	51.7	53.6	55.2	56.5	57.6	58.6	59.5	60.2
85	9.19	18.7	26.9	33.6	39.0	43.4	47.0	50.0	52.3	54.3	55.9	57.2	58.4	59.3	60.2	61.0
86	9.30	18.9	27.2	34.0	39.5	43.9	47.5	50.6	53.0	54.9	56.6	57.9	59.1	60.1	61.0	61.7
87	9.40	19.1	27.6	34.4	39.9	44.4	48.1	51.1	53.6	55.6	57.2	58.6	59.8	60.8	61.7	62.5
88	9.51	19.3	27.9	34.8	40.4	44.9	48.6	51.7	54.2	56.2	57.9	59.3	60.5	61.6	62.5	63.2
89	9.62	19.6	28.2	35.2	40.8	45.4	49.2	52.3	54.9	56.9	58.6	60.0	61.3	62.3	63.2	64.0
90	9.73	19.8	28.5	35.6	41.3	45.9	49.7	52.9	55.5	57.6	59.3	60.7	62.0	63.0	64.0	64.8
91	9.84	20.0	28.8	36.0	41.8	46.4	50.3	53.5	56.1	58.2	60.0	61.5	62.7	63.8	64.7	65.5
92	9.94	20.2	29.1	36.4	42.2	46.9	50.8	54.1	56.8	58.9	60.7	62.2	63.4	64.5	65.5	66.3
93	10.1	20.4	29.5	36.8	42.7	47.5	51.4	54.7	57.4	59.5	61.3	62.9	64.2	65.3	66.2	67.1
94	10.2	20.7	29.8	37.2	43.1	48.0	51.9	55.3	58.0	60.2	62.0	63.6	64.9	66.0	67.0	67.8
95	10.3	20.9	30.1	37.6	43.6	48.5	52.5	55.9	58.6	60.9	62.7	64.3	65.6	66.7	67.7	68.6
96	10.4	21.1	30.4	38.0	44.1	49.0	53.1	56.4	59.3	61.5	63.4	65.0	66.3	67.5	68.5	69.4
97	10.5	21.3	30.7	38.4	44.5	49.5	53.6	57.0	59.9	62.2	64.1	65.7	67.0	68.2	69.2	70.1
98	10.6	21.5	31.0	38.8	45.0	50.0	54.2	57.6	60.5	62.8	64.8	66.4	67.8	69.0	70.0	70.9
99	10.7	21.8	31.4	39.2	45.4	50.5	54.7	58.2	61.1	63.5	65.4	67.1	68.5	69.7	70.7	71.7
100	10.8	22.0	31.7	39.6	45.9	51.0	55.3	58.8	61.8	64.1	66.1	67.8	69.2	70.4	71.5	72.4
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110			
50	34.7	35.0	35.3	35.6	35.8	36.4	37.2	37.9	38.4	38.8	39.2						39.2	50
51	35.5	35.8	36.1	36.3	36.6	37.2	38.1	38.7	39.2	39.7	40.1						40.1	51
52	36.2	36.6	36.9	37.1	37.4	38.0	38.9	39.5	40.1	40.5	40.9						41.0	52
53	37.0	37.3	37.6	37.9	38.2	38.8	39.7	40.4	40.9	41.4	41.8						42.0	53
54	37.7	38.1	38.4	38.7	39.0	39.6	40.5	41.2	41.7	42.2	42.6						42.9	54
55	38.5	38.9	39.2	39.5	39.7	40.4	41.3	42.0	42.6	43.0	43.5						43.8	55
56	39.3	39.6	40.0	40.3	40.5	41.2	42.1	42.8	43.4	43.9	44.3						44.7	56
57	40.0	40.4	40.7	41.0	41.3	42.0	43.0	43.7	44.3	44.7	45.2						45.7	57
58	40.8	41.2	41.5	41.8	42.1	42.8	43.8	44.5	45.1	45.6	46.0						46.6	58
59	41.6	42.0	42.3	42.6	42.9	43.7	44.6	45.3	45.9	46.4	46.9						47.5	59
60	42.3	42.7	43.1	43.4	43.7	44.5	45.4	46.2	46.8	47.3	47.7	48.4					48.4	60
61	43.1	43.5	43.9	44.2	44.5	45.3	46.3	47.0	47.6	48.1	48.6	49.3					49.4	61
62	43.9	44.3	44.6	45.0	45.3	46.1	47.1	47.8	48.5	49.0	49.4	50.2					50.3	62
63	44.6	45.1	45.4	45.8	46.1	46.9	47.9	48.7	49.3	49.8	50.3	51.0					51.2	63
64	45.4	45.8	46.2	46.6	46.9	47.7	48.7	49.5	50.2	50.7	51.2	51.9					52.2	64
65	46.2	46.6	47.0	47.4	47.7	48.5	49.6	50.4	51.0	51.5	52.0	52.8					53.1	65
66	47.0	47.4	47.8	48.1	48.5	49.3	50.4	51.2	51.9	52.4	52.9	53.6					54.0	66
67	47.7	48.2	48.6	48.9	49.3	50.1	51.2	52.0	52.7	53.3	53.7	54.5					55.0	67
68	48.5	48.9	49.4	49.7	50.1	50.9	52.0	52.9	53.5	54.1	54.6	55.4					55.9	68
69	49.3	49.7	50.1	50.5	50.9	51.7	52.9	53.7	54.4	55.0	55.5	56.3					56.9	69
70	50.0	50.5	50.9	51.3	51.7	52.6	53.7	54.6	55.2	55.8	56.3	57.1	57.8				57.8	70
71	50.8	51.3	51.7	52.1	52.5	53.4	54.5	55.4	56.1	56.7	57.2	58.0	58.7				58.7	71
72	51.6	52.1	52.5	52.9	53.3	54.2	55.4	56.2	56.9	57.5	58.0	58.9	59.5				59.7	72
73	52.3	52.8	53.3	53.7	54.1	55.0	56.2	57.1	57.8	58.4	58.9	59.7	60.4				60.6	73
74	53.1	53.6	54.1	54.5	54.9	55.8	57.0	57.9	58.7	59.3	59.8	60.6	61.3				61.6	74
75	53.9	54.4	54.9	55.3	55.7	56.6	57.8	58.8	59.5	60.1	60.6	61.5	62.2				62.5	75
76	54.7	55.2	55.6	56.1	56.5	57.4	58.7	59.6	60.4	61.0	61.5	62.4	63.1				63.4	76
77	55.4	56.0	56.4	56.9	57.3	58.3	59.5	60.5	61.2	61.8	62.4	63.2	64.0				64.4	77
78	56.2	56.7	57.2	57.7	58.1	59.1	60.3	61.3	62.1	62.7	63.2	64.1	64.8				65.3	78
79	57.0	57.5	58.0	58.5	58.9	59.9	61.2	62.1	62.9	63.6	64.1	65.0	65.7				66.3	79
80	57.8	58.3	58.8	59.3	59.7	60.7	62.0	63.0	63.8	64.4	65.0	65.9	66.6				67.2	80
81	58.5	59.1	59.6	60.0	60.5	61.5	62.8	63.8	64.6	65.3	65.8	66.8	67.5				68.2	81
82	59.3	59.9	60.4	60.8	61.3	62.3	63.7	64.7	65.5	66.1	66.7	67.6	68.4				69.1	82
83	60.1	60.7	61.2	61.6	62.1	63.2	64.5	65.5	66.3	67.0	67.6	68.5	69.3				70.1	83
84	60.8	61.4	62.0	62.4	62.9	64.0	65.4	66.4	67.2	67.9	68.4	69.4	70.1				71.0	84
85	61.6	62.2	62.8	63.2	63.7	64.8	66.2	67.2	68.1	68.7	69.3	70.3	71.0				71.9	85
86	62.4	63.0	63.5	64.0	64.5	65.6	67.0	68.1	68.9	69.6	70.2	71.1	71.9				72.9	86
87	63.2	63.8	64.3	64.8	65.3	66.4	67.9	68.9	69.8	70.5	71.1	72.0	72.8				73.8	87
88	63.9	64.6	65.1	65.6	66.1	67.2	68.7	69.8	70.6	71.3	71.9	72.9	73.7				74.8	88
89	64.7	65.3	65.9	66.4	66.9	68.1	69.5	70.6	71.5	72.2	72.8	73.8	74.6				75.7	89
90	65.5	66.1	66.7	67.2	67.7	68.9	70.4	71.5	72.4	73.1	73.7	74.7	75.5	76.7			76.7	90
91	66.3	66.9	67.5	68.0	68.5	69.7	71.2	72.3	73.2	73.9	74.5	75.6	76.4	77.6			77.6	91
92	67.0	67.7	68.3	68.8	69.3	70.5	72.1	73.2	74.1	74.8	75.4	76.4	77.2	78.5			78.6	92
93	67.8	68.5	69.1	69.6	70.1	71.4	72.9	74.0	74.9	75.7	76.3	77.3	78.1	79.4			79.6	93
94	68.6	69.3	69.9	70.4	70.9	72.2	73.7	74.9	75.8	76.5	77.2	78.2	79.0	80.3			80.5	94
95	69.4	70.1	70.7	71.2	71.7	73.0	74.6	75.7	76.7	77.4	78.0	79.1	79.9	81.2			81.5	95
96	70.1	70.8	71.5	72.0	72.5	73.8	75.4	76.6	77.5	78.3	78.9	80.0	80.8	82.1			82.4	96
97	70.9	71.6	72.3	72.8	73.3	74.6	76.3	77.4	78.4	79.1	79.8	80.9	81.7	83.0			83.4	97
98	71.7	72.4	73.0	73.6	74.1	75.5	77.1	78.3	79.2	80.0	80.7	81.7	82.6	83.9			84.3	98
99	72.5	73.2	73.8	74.4	74.9	76.3	77.9	79.2	80.1	80.9	81.5	82.6	83.5	84.8			85.3	99
100	73.2	74.0	74.6	75.2	75.8	77.1	78.8	80.0	81.0	81.8	82.4	83.5	84.4	85.7			86.2	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		k=N	N
	k																	

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	10.8	22.0	31.7	39.6	45.9	51.0	55.3	58.8	61.8	64.1	66.1	67.8	69.2	70.4	71.5	72.4
102	11.0	22.4	32.3	40.3	46.8	52.1	56.4	60.0	63.0	65.5	67.5	69.2	70.7	71.9	73.0	74.0
104	11.2	22.9	32.9	41.1	47.7	53.1	57.5	61.1	64.2	66.8	68.8	70.6	72.1	73.4	74.5	75.5
106	11.5	23.3	33.6	41.9	48.6	54.1	58.6	62.3	65.5	68.1	70.2	72.0	73.5	74.9	76.0	77.0
108	11.7	23.7	34.2	42.7	49.6	55.1	59.7	63.5	66.7	69.4	71.6	73.4	75.0	76.3	77.5	78.5
110	11.9	24.2	34.8	43.5	50.5	56.1	60.8	64.7	67.9	70.7	72.9	74.8	76.4	77.8	79.0	80.1
112	12.1	24.6	35.5	44.3	51.4	57.2	61.9	65.8	69.2	72.0	74.3	76.2	77.9	79.3	80.5	81.6
114	12.3	25.1	36.1	45.1	52.3	58.2	63.0	67.0	70.4	73.2	75.6	77.6	79.3	80.8	82.0	83.1
116	12.5	25.5	36.8	45.9	53.2	59.2	64.1	68.2	71.7	74.5	77.0	79.0	80.7	82.2	83.5	84.7
118	12.8	25.9	37.4	46.7	54.1	60.2	65.2	69.4	72.9	75.8	78.3	80.4	82.2	83.7	85.0	86.2
120	13.0	26.4	38.0	47.5	55.1	61.2	66.3	70.6	74.1	77.1	79.7	81.8	83.6	85.2	86.5	87.7
122	13.2	26.8	38.7	48.3	56.0	62.3	67.4	71.7	75.4	78.4	81.0	83.2	85.1	86.6	88.0	89.2
124	13.4	27.3	39.3	49.0	56.9	63.3	68.5	72.9	76.6	79.7	82.3	84.6	86.5	88.1	89.5	90.8
126	13.6	27.7	39.9	49.8	57.8	64.3	69.6	74.1	77.8	81.0	83.7	86.0	87.9	89.6	91.0	92.3
128	13.8	28.1	40.6	50.6	58.7	65.3	70.7	75.3	79.1	82.2	85.0	87.4	89.3	91.0	92.5	93.8
130	14.1	28.6	41.2	51.4	59.7	66.3	71.8	76.4	80.3	83.5	86.3	88.8	90.8	92.5	94.0	95.3
132	14.3	29.0	41.8	52.2	60.6	67.4	72.9	77.6	81.5	84.8	87.6	90.1	92.2	94.0	95.5	96.9
134	14.5	29.5	42.5	53.0	61.5	68.4	74.1	78.8	82.8	86.1	89.0	91.5	93.6	95.4	97.0	98.4
136	14.7	29.9	43.1	53.8	62.4	69.4	75.2	80.0	84.0	87.4	90.3	92.9	95.1	96.9	98.5	99.9
138	14.9	30.3	43.7	54.6	63.3	70.4	76.3	81.1	85.2	88.7	91.6	94.2	96.5	98.4	100.0	101.4
140	15.1	30.8	44.4	55.4	64.2	71.4	77.4	82.3	86.5	89.9	93.0	95.6	97.9	99.8	101.5	102.9
142	15.3	31.2	45.0	56.2	65.2	72.5	78.5	83.5	87.7	91.2	94.3	97.0	99.3	101.3	103.0	104.5
144	15.6	31.7	45.6	57.0	66.1	73.5	79.6	84.7	88.9	92.5	95.6	98.3	100.7	102.8	104.5	106.0
146	15.8	32.1	46.3	57.7	67.0	74.5	80.7	85.8	90.2	93.8	96.9	99.7	102.1	104.2	106.0	107.5
148	16.0	32.5	46.9	58.5	67.9	75.5	81.8	87.0	91.4	95.1	98.3	101.1	103.5	105.7	107.5	109.0
150	16.2	33.0	47.5	59.3	68.8	76.5	82.9	88.2	92.7	96.4	99.6	102.4	104.9	107.1	108.9	110.5
152	16.4	33.4	48.2	60.1	69.7	77.6	84.0	89.4	93.9	97.7	100.9	103.8	106.3	108.6	110.4	112.1
154	16.6	33.9	48.8	60.9	70.7	78.6	85.1	90.5	95.1	98.9	102.3	105.2	107.7	110.0	111.9	113.6
156	16.9	34.3	49.4	61.7	71.6	79.6	86.2	91.7	96.4	100.2	103.6	106.5	109.1	111.4	113.4	115.1
158	17.1	34.7	50.1	62.5	72.5	80.6	87.3	92.9	97.6	101.5	104.9	107.9	110.5	112.8	114.9	116.6
160	17.3	35.2	50.7	63.3	73.4	81.7	88.4	94.1	98.8	102.8	106.2	109.2	111.9	114.3	116.4	118.1
162	17.5	35.6	51.3	64.1	74.3	82.7	89.5	95.2	100.1	104.1	107.6	110.6	113.3	115.7	117.8	119.6
164	17.7	36.1	52.0	64.9	75.3	83.7	90.6	96.4	101.3	105.4	108.9	112.0	114.7	117.1	119.3	121.1
166	17.9	36.5	52.6	65.7	76.2	84.7	91.7	97.6	102.5	106.7	110.2	113.3	116.1	118.6	120.7	122.7
168	18.2	36.9	53.2	66.4	77.1	85.7	92.8	98.8	103.8	107.9	111.6	114.7	117.5	120.0	122.2	124.2
170	18.4	37.4	53.9	67.2	78.0	86.8	93.9	99.9	105.0	109.2	112.9	116.1	118.9	121.4	123.7	125.7
172	18.6	37.8	54.5	68.0	78.9	87.8	95.1	101.1	106.2	110.5	114.2	117.4	120.3	122.8	125.1	127.2
174	18.8	38.3	55.1	68.8	79.8	88.8	96.2	102.3	107.5	111.8	115.5	118.8	121.7	124.3	126.6	128.6
176	19.0	38.7	55.8	69.6	80.8	89.8	97.3	103.5	108.7	113.1	116.9	120.2	123.1	125.7	128.0	130.1
178	19.2	39.1	56.4	70.4	81.7	90.8	98.4	104.7	109.9	114.4	118.2	121.5	124.5	127.1	129.5	131.6
180	19.5	39.6	57.0	71.2	82.6	91.9	99.5	105.8	111.2	115.6	119.5	122.9	125.9	128.6	130.9	133.1
182	19.7	40.0	57.7	72.0	83.5	92.9	100.6	107.0	112.4	116.9	120.8	124.3	127.3	130.0	132.4	134.6
184	19.9	40.4	58.3	72.8	84.4	93.9	101.7	108.2	113.7	118.2	122.2	125.6	128.7	131.4	133.8	136.0
186	20.1	40.9	58.9	73.6	85.3	94.9	102.8	109.4	114.9	119.5	123.5	127.0	130.1	132.8	135.3	137.5
188	20.3	41.3	59.6	74.4	86.3	95.9	103.9	110.5	116.1	120.8	124.8	128.4	131.5	134.3	136.8	139.0
190	20.5	41.8	60.2	75.1	87.2	97.0	105.0	111.7	117.4	122.1	126.2	129.7	132.9	135.7	138.2	140.5
192	20.8	42.2	60.8	75.9	88.1	98.0	106.1	112.9	118.6	123.4	127.5	131.1	134.3	137.1	139.7	141.9
194	21.0	42.6	61.5	76.7	89.0	99.0	107.2	114.1	119.8	124.6	128.8	132.5	135.7	138.6	141.1	143.4
196	21.2	43.1	62.1	77.5	89.9	100.0	108.3	115.2	121.1	125.9	130.1	133.8	137.1	140.0	142.6	144.9
198	21.4	43.5	62.7	78.3	90.9	101.0	109.4	116.4	122.3	127.2	131.5	135.2	138.5	141.4	144.0	146.4
200	21.6	44.0	63.4	79.1	91.8	102.1	110.5	117.6	123.5	128.5	132.8	136.6	139.9	142.8	145.5	147.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

k																N
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
73.2	74.0	74.6	75.2	75.8	77.1	78.8	80.0	81.0	81.8	82.4	83.5	84.4	85.7		86.2	100
74.8	75.5	76.2	76.8	77.4	78.8	80.5	81.7	82.7	83.5	84.2	85.3	86.2	87.5		88.1	102
76.3	77.1	77.8	78.4	79.0	80.4	82.1	83.4	84.4	85.2	85.9	87.1	87.9	89.3		90.1	104
77.9	78.7	79.4	80.0	80.6	82.0	83.8	85.1	86.2	87.0	87.7	88.8	89.7	91.1		92.0	106
79.4	80.3	81.0	81.6	82.2	83.7	85.5	86.9	87.9	88.7	89.5	90.6	91.5	92.9		93.9	108
81.0	81.8	82.6	83.2	83.8	85.3	87.2	88.6	89.6	90.5	91.2	92.4	93.3	94.7	95.8	95.8	110
82.5	83.4	84.1	84.8	85.4	87.0	88.9	90.3	91.4	92.2	93.0	94.2	95.1	96.5	97.6	97.7	112
84.1	85.0	85.7	86.4	87.1	88.6	90.6	92.0	93.1	94.0	94.7	95.9	96.9	98.4	99.5	99.7	114
85.6	86.5	87.3	88.0	88.7	90.3	92.3	93.7	94.8	95.7	96.5	97.7	98.7	100.2	101.3	101.6	116
87.2	88.1	88.9	89.6	90.3	91.9	94.0	95.4	96.6	97.5	98.3	99.5	100.5	102.0	103.1	103.5	118
88.7	89.7	90.5	91.2	91.9	93.6	95.7	97.2	98.3	99.2	100.0	101.3	102.3	103.8	104.9	105.4	120
90.3	91.2	92.1	92.8	93.5	95.2	97.4	98.9	100.1	101.0	101.8	103.1	104.1	105.6	106.8	107.4	122
91.8	92.8	93.7	94.4	95.1	96.9	99.0	100.6	101.8	102.8	103.6	104.9	105.9	107.4	108.6	109.3	124
93.4	94.4	95.3	96.0	96.8	98.6	100.7	102.3	103.5	104.5	105.3	106.6	107.7	109.3	110.4	111.2	126
94.9	95.9	96.8	97.7	98.4	100.2	102.4	104.0	105.3	106.3	107.1	108.4	109.5	111.1	112.3	113.2	128
96.5	97.5	98.4	99.3	100.0	101.9	104.1	105.8	107.0	108.0	108.9	110.2	111.3	112.9	114.1	115.1	130
98.0	99.1	100.0	100.9	101.6	103.5	105.8	107.5	108.8	109.8	110.7	112.0	113.1	114.7	115.9	117.0	132
99.6	100.7	101.6	102.5	103.2	105.2	107.5	109.2	110.5	111.6	112.4	113.8	114.9	116.5	117.8	119.0	134
101.1	102.2	103.2	104.1	104.9	106.8	109.2	110.9	112.3	113.3	114.2	115.6	116.7	118.4	119.6	120.9	136
102.7	103.8	104.8	105.7	106.5	108.5	110.9	112.7	114.0	115.1	116.0	117.4	118.5	120.2	121.5	122.8	138
104.2	105.4	106.4	107.3	108.1	110.1	112.6	114.4	115.8	116.8	117.7	119.2	120.3	122.0	123.3	124.8	140
105.8	106.9	108.0	108.9	109.7	111.8	114.3	116.1	117.5	118.6	119.5	121.0	122.1	123.8	125.1	126.7	142
107.3	108.5	109.5	110.5	111.3	113.4	116.0	117.8	119.3	120.4	121.3	122.8	123.9	125.7	127.0	128.6	144
108.9	110.1	111.1	112.1	112.9	115.1	117.7	119.6	121.0	122.1	123.1	124.6	125.7	127.5	128.8	130.6	146
110.4	111.6	112.7	113.7	114.6	116.8	119.4	121.3	122.8	123.9	124.9	126.4	127.6	129.3	130.7	132.5	148
111.9	113.2	114.3	115.3	116.2	118.4	121.1	123.0	124.5	125.7	126.6	128.2	129.4	131.2	132.5	134.5	150
113.5	114.8	115.9	116.9	117.8	120.1	122.8	124.8	126.3	127.4	128.4	130.0	131.2	133.0	134.3	136.4	152
115.0	116.3	117.5	118.5	119.4	121.7	124.5	126.5	128.0	129.2	130.2	131.8	133.0	134.8	136.2	138.4	154
116.6	117.9	119.0	120.1	121.0	123.4	126.2	128.2	129.8	131.0	132.0	133.6	134.8	136.7	138.0	140.3	156
118.1	119.4	120.6	121.7	122.7	125.0	127.9	130.0	131.5	132.7	133.8	135.4	136.6	138.5	139.9	142.3	158
119.7	121.0	122.2	123.3	124.3	126.7	129.6	131.7	133.3	134.5	135.5	137.2	138.4	140.3	141.7	144.2	160
121.2	122.6	123.8	124.9	125.9	128.4	131.3	133.4	135.0	136.3	137.3	139.0	140.2	142.2	143.6	146.1	162
122.7	124.1	125.4	126.5	127.5	130.0	133.0	135.2	136.8	138.1	139.1	140.8	142.1	144.0	145.4	148.1	164
124.3	125.7	127.0	128.1	129.1	131.7	134.7	136.9	138.5	139.8	140.9	142.6	143.9	145.8	147.3	150.0	166
125.8	127.3	128.5	129.7	130.7	133.3	136.4	138.6	140.3	141.6	142.7	144.4	145.7	147.7	149.1	152.0	168
127.3	128.8	130.1	131.3	132.4	135.0	138.1	140.4	142.0	143.4	144.5	146.2	147.5	149.5	151.0	153.9	170
128.9	130.4	131.7	132.9	134.0	136.6	139.8	142.1	143.8	145.2	146.3	148.0	149.3	151.3	152.8	155.9	172
130.4	131.9	133.3	134.5	135.6	138.3	141.5	143.8	145.6	146.9	148.0	149.8	151.2	153.2	154.7	157.8	174
132.0	133.5	134.9	136.1	137.2	140.0	143.2	145.6	147.3	148.7	149.8	151.6	153.0	155.0	156.5	159.8	176
133.5	135.1	136.4	137.7	138.8	141.6	144.9	147.3	149.1	150.5	151.6	153.4	154.8	156.9	158.4	161.8	178
135.0	136.6	138.0	139.3	140.4	143.3	146.7	149.0	150.8	152.3	153.4	155.2	156.6	158.7	160.2	163.7	180
136.5	138.2	139.6	140.9	142.0	144.9	148.4	150.8	152.6	154.0	155.2	157.0	158.4	160.5	162.1	165.7	182
138.0	139.7	141.2	142.5	143.7	146.6	150.1	152.5	154.4	155.8	157.0	158.9	160.3	162.4	163.9	167.6	184
139.5	141.3	142.8	144.1	145.3	148.2	151.8	154.3	156.1	157.6	158.8	160.7	162.1	164.2	165.8	169.6	186
141.0	142.8	144.3	145.7	146.9	149.9	153.5	156.0	157.9	159.4	160.6	162.5	163.9	166.1	167.6	171.5	188
142.5	144.4	145.9	147.3	148.5	151.5	155.2	157.7	159.6	161.1	162.4	164.3	165.7	167.9	169.5	173.5	190
144.0	145.9	147.5	148.9	150.1	153.2	156.9	159.5	161.4	162.9	164.2	166.1	167.6	169.8	171.4	175.4	192
145.5	147.4	149.1	150.5	151.7	154.9	158.6	161.2	163.2	164.7	166.0	167.9	169.4	171.6	173.2	177.4	194
147.0	148.9	150.6	152.1	153.3	156.5	160.3	162.9	164.9	166.5	167.7	169.7	171.2	173.4	175.1	179.4	196
148.5	150.5	152.2	153.7	155.0	158.2	162.0	164.7	166.7	168.3	169.5	171.5	173.1	175.3	176.9	181.3	198
150.0	152.0	153.8	155.2	156.6	159.8	163.7	166.4	168.4	170.0	171.3	173.4	174.9	177.1	178.8	183.3	200
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
k																

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	21.6	44.0	63.4	79.1	91.8	102.1	110.5	117.6	123.5	128.5	132.8	136.6	139.9	142.8	145.5	147.9
202	21.8	44.4	64.0	79.9	92.7	103.1	111.6	118.8	124.8	129.8	134.1	137.9	141.3	144.3	146.9	149.3
204	22.1	44.8	64.6	80.7	93.6	104.1	112.7	119.9	126.0	131.1	135.5	139.3	142.7	145.7	148.4	150.8
206	22.3	45.3	65.3	81.5	94.5	105.1	113.8	121.1	127.2	132.4	136.8	140.7	144.1	147.1	149.8	152.3
208	22.5	45.7	65.9	82.3	95.4	106.1	115.0	122.3	128.5	133.6	138.1	142.0	145.5	148.5	151.3	153.8
210	22.7	46.2	66.5	83.1	96.4	107.2	116.1	123.5	129.7	134.9	139.4	143.4	146.9	150.0	152.8	155.3
212	22.9	46.6	67.2	83.8	97.3	108.2	117.2	124.6	130.9	136.2	140.8	144.8	148.3	151.4	154.2	156.7
214	23.1	47.0	67.8	84.6	98.2	109.2	118.3	125.8	132.2	137.5	142.1	146.1	149.7	152.8	155.7	158.2
216	23.3	47.5	68.4	85.4	99.1	110.2	119.4	127.0	133.4	138.8	143.4	147.5	151.1	154.3	157.1	159.7
218	23.6	47.9	69.1	86.2	100.0	111.3	120.5	128.2	134.7	140.1	144.8	148.9	152.5	155.7	158.6	161.2
220	23.8	48.4	69.7	87.0	100.9	112.3	121.6	129.3	135.9	141.3	146.1	150.2	153.9	157.1	160.0	162.6
222	24.0	48.8	70.3	87.8	101.9	113.3	122.7	130.5	137.1	142.6	147.4	151.6	155.3	158.5	161.5	164.1
224	24.2	49.2	71.0	88.6	102.8	114.3	123.8	131.7	138.4	143.9	148.7	152.9	156.7	160.0	162.9	165.6
226	24.4	49.7	71.6	89.4	103.7	115.3	124.9	132.9	139.6	145.2	150.1	154.3	158.1	161.4	164.4	167.1
228	24.6	50.1	72.2	90.2	104.6	116.4	126.0	134.0	140.8	146.5	151.4	155.7	159.5	162.8	165.8	168.6
230	24.9	50.6	72.9	91.0	105.5	117.4	127.1	135.2	142.1	147.8	152.7	157.0	160.9	164.3	167.3	170.0
232	25.1	51.0	73.5	91.8	106.5	118.4	128.2	136.4	143.3	149.1	154.0	158.4	162.3	165.7	168.8	171.5
234	25.3	51.4	74.1	92.5	107.4	119.4	129.3	137.6	144.5	150.3	155.4	159.8	163.7	167.1	170.2	173.0
236	25.5	51.9	74.8	93.3	108.3	120.4	130.4	138.7	145.8	151.6	156.7	161.1	165.1	168.5	171.7	174.5
238	25.7	52.3	75.4	94.1	109.2	121.5	131.5	139.9	147.0	152.9	158.0	162.5	166.5	170.0	173.1	176.0
240	25.9	52.8	76.0	94.9	110.1	122.5	132.6	141.1	148.2	154.2	159.4	163.9	167.9	171.4	174.6	177.4
242	26.2	53.2	76.7	95.7	111.0	123.5	133.7	142.3	149.5	155.5	160.7	165.2	169.3	172.8	176.0	178.9
244	26.4	53.6	77.3	96.5	112.0	124.5	134.8	143.5	150.7	156.8	162.0	166.6	170.7	174.3	177.5	180.4
246	26.6	54.1	77.9	97.3	112.9	125.5	136.0	144.6	152.0	158.1	163.3	168.0	172.1	175.7	178.9	181.9
248	26.8	54.5	78.6	98.1	113.8	126.6	137.1	145.8	153.2	159.3	164.7	169.3	173.5	177.1	180.4	183.3
250	27.0	55.0	79.2	98.9	114.7	127.6	138.2	147.0	154.4	160.6	166.0	170.7	174.9	178.5	181.9	184.8
	.108	.220	.316	.396	.460	.510	.552	.588	.618	.642	.664	.682	.698	.716	.726	.740
300	32.4	66.0	95.0	118.7	137.7	153.1	165.8	176.4	185.3	192.7	199.2	204.8	209.8	214.3	218.2	221.8
	.108	.218	.318	.394	.458	.510	.552	.588	.618	.644	.664	.684	.700	.714	.728	.740
350	37.8	76.9	110.9	138.4	160.6	178.6	193.4	205.8	216.2	224.9	232.4	239.0	244.8	250.0	254.6	258.8
	.108	.220	.316	.396	.458	.510	.554	.588	.618	.642	.664	.682	.700	.714	.728	.738
400	43.2	87.9	126.7	158.2	183.5	204.1	221.1	235.2	247.1	257.0	265.6	273.1	279.8	285.7	291.0	295.7
	.108	.220	.318	.396	.460	.510	.552	.588	.618	.642	.664	.684	.698	.714	.726	.740
450	48.6	98.9	142.6	178.0	206.5	229.6	248.7	264.6	278.0	289.1	298.8	307.3	314.7	321.4	327.3	332.7
	.108	.220	.316	.396	.458	.512	.552	.588	.616	.642	.664	.682	.700	.714	.728	.740
500	54.0	109.9	158.4	197.8	229.4	255.2	276.3	294.0	308.8	321.2	332.0	341.4	349.7	357.1	363.7	369.7
	.109	.220	.317	.395	.459	.510	.553	.588	.618	.643	.664	.683	.699	.714	.727	.739
600	64.9	131.9	190.1	237.3	275.3	306.2	331.6	352.8	370.6	385.5	398.4	409.7	419.6	428.5	436.4	443.6
	.108	.220	.317	.396	.459	.510	.553	.587	.618	.642	.664	.683	.700	.714	.728	.739
700	75.7	153.9	221.8	276.9	321.2	357.2	386.9	411.5	432.4	449.7	464.8	478.0	489.6	499.9	509.2	517.5
	.108	.220	.317	.395	.459	.511	.552	.588	.617	.643	.664	.682	.699	.714	.727	.739
800	86.5	175.9	253.5	316.4	367.1	408.3	442.1	470.3	494.1	514.0	531.2	546.2	559.5	571.3	581.9	591.4
	.108	.220	.316	.396	.459	.510	.553	.588	.618	.642	.664	.683	.700	.715	.728	.740
900	97.3	197.9	285.1	356.0	413.0	459.3	497.4	529.1	555.9	578.2	597.6	614.5	629.5	642.8	654.7	665.4
	.108	.219	.317	.395	.459	.510	.552	.588	.618	.643	.664	.683	.699	.714	.727	.739
1000	108.1	219.8	316.8	395.5	458.9	510.3	552.6	587.9	617.7	642.5	664.0	682.8	699.4	714.2	727.4	739.3
	.108	.220	.317	.396	.458	.511	.553	.588	.618	.642	.664	.683	.700	.714	.727	.739
1100	118.9	241.8	348.5	435.1	504.7	561.4	607.9	646.7	679.5	706.7	730.4	751.1	769.4	785.6	800.1	813.2
	.1081	.2198	.3168	.3955	.4589	.5103	.5526	.5879	.6177	.6425	.6640	.6828	.6994	.7142	.7274	.7393
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

k																k=N	N
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
150.0	152.0	153.8	155.2	156.6	159.8	163.7	166.4	168.4	170.0	171.3	173.4	174.9	177.1	178.8	183.3	200
151.5	153.5	155.3	156.8	158.2	161.5	165.4	168.2	170.2	171.8	173.1	175.2	176.7	179.0	180.6	185.2	202
153.0	155.0	156.9	158.4	159.8	163.1	167.1	169.9	172.0	173.6	174.9	177.0	178.5	180.8	182.5	187.2	204
154.5	156.5	158.4	160.0	161.4	164.8	168.8	171.6	173.7	175.4	176.7	178.8	180.4	182.7	184.4	189.2	206
156.0	158.1	159.9	161.6	163.0	166.4	170.5	173.4	175.5	177.2	178.5	180.6	182.2	184.5	186.2	191.1	208
157.5	159.6	161.5	163.2	164.6	168.1	172.2	175.1	177.3	178.9	180.3	182.4	184.0	186.4	188.1	193.1	210
159.0	161.1	163.0	164.8	166.2	169.8	173.9	176.9	179.0	180.7	182.1	184.2	185.9	188.2	190.0	195.1	212
160.5	162.6	164.5	166.3	167.8	171.4	175.6	178.6	180.8	182.5	183.9	186.1	187.7	190.1	191.8	197.0	214
162.0	164.1	166.1	167.9	169.4	173.1	177.3	180.3	182.6	184.3	185.7	187.9	189.5	191.9	193.7	199.0	216
163.5	165.7	167.6	169.4	171.0	174.7	179.0	182.1	184.3	186.1	187.5	189.7	191.4	193.8	195.5	201.0	218
165.0	167.2	169.2	171.0	172.7	176.4	180.8	183.8	186.1	187.9	189.3	191.5	193.2	195.6	197.4	202.9	220
166.5	168.7	170.7	172.5	174.2	178.0	182.5	185.6	187.9	189.6	191.1	193.3	195.0	197.5	199.3	204.9	222
168.0	170.2	172.2	174.1	175.8	179.7	184.2	187.3	189.6	191.4	192.9	195.2	196.9	199.3	201.1	206.8	224
169.5	171.7	173.8	175.6	177.4	181.3	185.9	189.0	191.4	193.2	194.7	197.0	198.7	201.2	203.0	208.8	226
171.0	173.3	175.3	177.2	178.9	183.0	187.6	190.8	193.2	195.0	196.5	198.8	200.5	203.0	204.9	210.8	228
172.5	174.8	176.9	178.7	180.5	184.6	189.3	192.5	194.9	196.8	198.3	200.6	202.4	204.9	206.7	212.8	230
174.0	176.3	178.4	180.3	182.1	186.3	191.0	194.3	196.7	198.6	200.1	202.4	204.2	206.7	208.6	214.7	232
175.5	177.8	179.9	181.9	183.6	187.9	192.7	196.0	198.5	200.4	201.9	204.3	206.0	208.6	210.5	216.7	234
177.0	179.3	181.5	183.4	185.2	189.6	194.4	197.7	200.2	202.1	203.7	206.1	207.9	210.5	212.3	218.7	236
178.5	180.9	183.0	185.0	186.8	191.2	196.1	199.5	202.0	203.9	205.5	207.9	209.7	212.3	214.2	220.6	238
180.0	182.4	184.5	186.5	188.3	192.9	197.8	201.2	203.8	205.7	207.3	209.7	211.5	214.2	216.1	222.6	240
181.5	183.9	186.1	188.1	189.9	194.5	199.5	203.0	205.5	207.5	209.1	211.5	213.4	216.0	217.9	224.6	242
183.0	185.4	187.6	189.6	191.5	196.2	201.2	204.7	207.3	209.3	210.9	213.4	215.2	217.9	219.8	226.5	244
184.5	186.9	189.2	191.2	193.1	197.8	202.9	206.4	209.1	211.1	212.7	215.2	217.0	219.7	221.7	228.5	246
186.0	188.5	190.7	192.7	194.6	199.5	204.6	208.2	210.8	212.9	214.5	217.0	218.9	221.6	223.5	230.5	248
187.5	190.0	192.2	194.3	196.2	201.1	206.3	209.9	212.6	214.6	216.3	218.8	220.7	223.5	225.4	232.5	250
.750	.760	.770	.778	.784	.804	.852	.872	.884	.896	.902	.914	.922	.930	.938	.988	
225.0	228.0	230.7	233.2	235.4	241.3	248.9	253.5	256.8	259.4	261.4	264.5	266.8	270.0	272.3	281.9	300
.750	.760	.768	.776	.786	.806	.830	.868	.886	.896	.904	.916	.924	.934	.940	.990	
262.5	266.0	269.1	272.0	274.7	281.6	290.4	296.9	301.1	304.2	306.6	310.3	313.0	316.7	319.3	331.4	350
.750	.760	.770	.778	.784	.804	.828	.850	.884	.896	.906	.918	.926	.938	.944	.994	
300.0	304.0	307.6	310.9	313.9	321.8	331.8	339.4	345.3	349.0	351.9	356.2	359.3	363.6	366.5	381.1	400
.750	.760	.768	.776	.786	.804	.830	.848	.862	.894	.904	.918	.928	.938	.946	.996	
337.5	342.0	346.0	349.7	353.2	362.0	373.3	381.8	388.4	393.7	397.1	402.1	405.7	410.5	413.8	430.9	450
.752	.760	.770	.778	.784	.804	.830	.848	.864	.876	.906	.920	.928	.940	.946	.998	
375.1	380.0	384.5	388.6	392.4	402.2	414.8	424.2	431.6	437.5	442.4	448.1	452.1	457.5	461.1	480.8	500
.750	.760	.769	.777	.785	.805	.830	.849	.863	.875	.885	.920	.930	.942	.950	1.000	
450.1	456.0	461.4	466.3	470.9	482.7	497.8	509.1	517.9	525.0	530.9	540.1	545.1	551.7	556.1	580.8	600
.750	.759	.768	.777	.785	.804	.829	.848	.863	.875	.885	.900	.930	.944	.951	1.002	
525.1	531.9	538.2	544.0	549.4	563.1	580.7	593.9	604.2	612.5	619.4	630.1	638.1	646.1	651.2	681.0	700
.750	.760	.769	.777	.784	.805	.830	.848	.863	.875	.884	.900	.912	.945	.953	1.004	
600.1	607.9	615.1	621.7	627.8	643.6	663.7	678.7	690.5	700.0	707.8	720.1	729.3	740.6	746.5	781.4	800
.750	.760	.769	.778	.785	.804	.829	.849	.863	.875	.885	.900	.911	.944	.954	1.004	
675.1	683.9	692.0	699.5	706.3	724.0	746.6	763.6	776.8	787.5	796.3	810.1	820.4	835.0	841.9	881.8	900
.750	.760	.769	.777	.785	.805	.830	.848	.863	.875	.885	.900	.912	.928	.954	1.006	
750.1	759.9	768.9	777.2	784.8	804.5	829.6	848.4	863.1	875.0	884.8	900.1	911.6	927.8	937.3	982.4	1000
.750	.760	.769	.777	.785	.804	.830	.849	.864	.875	.885	.900	.914	.932	.957	1.006	
825.1	835.9	845.8	854.9	863.3	884.9	912.6	933.3	949.5	962.5	973.3	990.1	1003.	1021.	1033.	1083.	1100
.7501	.7599	.7689	.7772	.7848	.8045	.8296	.8484	.8631	.8750	.8848	.9001	.9116	.9278	.9389		
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
k																

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.223															
3	.361	.602														
4	.503	.855	1.09													
5	.628	1.12	1.43	1.66												
6	.754	1.38	1.79	2.07	2.28											
7	.880	1.65	2.15	2.49	2.74	2.94										
8	1.01	1.92	2.51	2.92	3.21	3.44	3.63									
9	1.13	2.19	2.88	3.35	3.70	3.96	4.17	4.34								
10	1.26	2.44	3.25	3.79	4.19	4.49	4.72	4.92	5.08							
11	1.38	2.68	3.62	4.24	4.68	5.02	5.28	5.50	5.68	5.84						
12	1.51	2.92	3.99	4.68	5.18	5.55	5.85	6.09	6.29	6.46	6.61					
13	1.63	3.17	4.37	5.13	5.68	6.09	6.42	6.68	6.90	7.09	7.26	7.40				
14	1.76	3.41	4.74	5.58	6.19	6.64	7.00	7.28	7.52	7.73	7.90	8.06	8.20			
15	1.88	3.65	5.11	6.03	6.69	7.19	7.57	7.89	8.15	8.37	8.56	8.72	8.87	9.01		
16	2.01	3.90	5.48	6.48	7.20	7.74	8.16	8.49	8.77	9.01	9.21	9.39	9.55	9.70	9.83	
17	2.14	4.14	5.83	6.93	7.71	8.29	8.74	9.11	9.40	9.66	9.88	10.1	10.2	10.4	10.5	10.7
18	2.26	4.38	6.17	7.39	8.22	8.85	9.33	9.72	10.0	10.3	10.5	10.7	10.9	11.1	11.2	11.4
19	2.39	4.63	6.51	7.84	8.74	9.40	9.92	10.3	10.7	11.0	11.2	11.4	11.6	11.8	11.9	12.1
20	2.51	4.87	6.85	8.29	9.25	9.96	10.5	11.0	11.3	11.6	11.9	12.1	12.3	12.5	12.7	12.8
21	2.64	5.12	7.20	8.74	9.76	10.5	11.1	11.6	12.0	12.3	12.6	12.8	13.0	13.2	13.4	13.5
22	2.76	5.36	7.54	9.19	10.3	11.1	11.7	12.2	12.6	12.9	13.2	13.5	13.7	13.9	14.1	14.3
23	2.89	5.60	7.88	9.64	10.8	11.6	12.3	12.8	13.3	13.6	13.9	14.2	14.4	14.6	14.8	15.0
24	3.02	5.85	8.22	10.1	11.3	12.2	12.9	13.5	13.9	14.3	14.6	14.9	15.1	15.3	15.5	15.7
25	3.14	6.09	8.57	10.5	11.8	12.8	13.5	14.1	14.6	15.0	15.3	15.6	15.8	16.1	16.3	16.4
26	3.27	6.33	8.91	11.0	12.3	13.3	14.1	14.7	15.2	15.6	16.0	16.3	16.5	16.8	17.0	17.2
27	3.39	6.58	9.25	11.4	12.8	13.9	14.7	15.3	15.9	16.3	16.7	17.0	17.3	17.5	17.7	17.9
28	3.52	6.82	9.60	11.8	13.4	14.5	15.3	16.0	16.5	17.0	17.4	17.7	18.0	18.2	18.5	18.7
29	3.64	7.06	9.94	12.2	13.9	15.0	15.9	16.6	17.2	17.6	18.0	18.4	18.7	19.0	19.2	19.4
30	3.77	7.31	10.3	12.6	14.4	15.6	16.5	17.2	17.8	18.3	18.7	19.1	19.4	19.7	19.9	20.2
31	3.90	7.55	10.6	13.1	14.9	16.1	17.1	17.9	18.5	19.0	19.4	19.8	20.1	20.4	20.7	20.9
32	4.02	7.79	11.0	13.5	15.4	16.7	17.7	18.5	19.2	19.7	20.1	20.5	20.8	21.1	21.4	21.6
33	4.15	8.04	11.3	13.9	15.9	17.3	18.3	19.1	19.8	20.4	20.8	21.2	21.6	21.9	22.2	22.4
34	4.27	8.28	11.7	14.3	16.4	17.8	18.9	19.8	20.5	21.0	21.5	21.9	22.3	22.6	22.9	23.1
35	4.40	8.53	12.0	14.8	16.9	18.4	19.5	20.4	21.1	21.7	22.2	22.7	23.0	23.4	23.6	23.9
36	4.52	8.77	12.3	15.2	17.4	19.0	20.1	21.1	21.8	22.4	22.9	23.4	23.8	24.1	24.4	24.7
37	4.65	9.01	12.7	15.6	17.9	19.5	20.7	21.7	22.5	23.1	23.6	24.1	24.5	24.8	25.1	25.4
38	4.77	9.26	13.0	16.0	18.4	20.1	21.3	22.3	23.1	23.8	24.3	24.8	25.2	25.6	25.9	26.2
39	4.90	9.50	13.4	16.4	18.9	20.6	21.9	23.0	23.8	24.5	25.0	25.5	25.9	26.3	26.6	26.9
40	5.03	9.74	13.7	16.9	19.4	21.2	22.5	23.6	24.4	25.1	25.7	26.2	26.7	27.0	27.4	27.7
41	5.15	9.99	14.1	17.3	19.9	21.8	23.1	24.2	25.1	25.8	26.4	27.0	27.4	27.8	28.1	28.4
42	5.28	10.2	14.4	17.7	20.4	22.3	23.7	24.9	25.8	26.5	27.1	27.7	28.1	28.5	28.9	29.2
43	5.40	10.5	14.7	18.1	20.8	22.9	24.4	25.5	26.4	27.2	27.8	28.4	28.9	29.3	29.6	30.0
44	5.53	10.7	15.1	18.6	21.3	23.4	25.0	26.1	27.1	27.9	28.6	29.1	29.6	30.0	30.4	30.7
45	5.65	11.0	15.4	19.0	21.8	24.0	25.6	26.8	27.8	28.6	29.3	29.8	30.3	30.8	31.2	31.5
46	5.78	11.2	15.8	19.4	22.3	24.6	26.2	27.4	28.4	29.3	30.0	30.6	31.1	31.5	31.9	32.3
47	5.91	11.4	16.1	19.8	22.8	25.1	26.8	28.1	29.1	30.0	30.7	31.3	31.8	32.3	32.7	33.0
48	6.03	11.7	16.4	20.2	23.3	25.7	27.4	28.7	29.8	30.6	31.4	32.0	32.5	33.0	33.4	33.8
49	6.16	11.9	16.8	20.7	23.7	26.2	28.0	29.3	30.4	31.3	32.1	32.7	33.3	33.8	34.2	34.6
50	6.28	12.2	17.1	21.1	24.2	26.8	28.6	30.0	31.1	32.0	32.8	33.5	34.0	34.5	34.9	35.3
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
1																.0204	1
2																.223	2
3																.602	3
4																1.09	4
5																1.66	5
6																2.28	6
7																2.94	7
8																3.63	8
9																4.34	9
10																5.08	10
11																5.84	11
12																6.61	12
13																7.40	13
14																8.20	14
15																9.01	15
16																9.83	16
17																10.7	17
18	11.5															11.5	18
19	12.2	12.3														12.3	19
20	12.9	13.1	13.2													13.2	20
21	13.7	13.8	13.9	14.0												14.0	21
22	14.4	14.5	14.7	14.8	14.9											14.9	22
23	15.1	15.3	15.4	15.5	15.7											15.8	23
24	15.9	16.0	16.2	16.3	16.4											16.6	24
25	16.6	16.8	16.9	17.0	17.2	17.5										17.5	25
26	17.4	17.5	17.7	17.8	17.9	18.3										18.4	26
27	18.1	18.3	18.4	18.6	18.7	19.1										19.3	27
28	18.9	19.0	19.2	19.3	19.5	19.8										20.2	28
29	19.6	19.8	19.9	20.1	20.2	20.6										21.0	29
30	20.4	20.5	20.7	20.9	21.0	21.4	21.9									21.9	30
31	21.1	21.3	21.5	21.6	21.8	22.2	22.7									22.8	31
32	21.9	22.1	22.2	22.4	22.6	23.0	23.5									23.7	32
33	22.6	22.8	23.0	23.2	23.3	23.8	24.3									24.6	33
34	23.4	23.6	23.8	24.0	24.1	24.6	25.1									25.5	34
35	24.1	24.4	24.6	24.7	24.9	25.4	26.0	26.4								26.4	35
36	24.9	25.1	25.3	25.5	25.7	26.2	26.8	27.3								27.3	36
37	25.7	25.9	26.1	26.3	26.5	27.0	27.6	28.1								28.3	37
38	26.4	26.7	26.9	27.1	27.3	27.7	28.4	28.9								29.2	38
39	27.2	27.4	27.7	27.9	28.1	28.5	29.2	29.7								30.1	39
40	28.0	28.2	28.4	28.6	28.8	29.4	30.0	30.6	31.0							31.0	40
41	28.7	29.0	29.2	29.4	29.6	30.2	30.8	31.4	31.8							31.9	41
42	29.5	29.8	30.0	30.2	30.4	31.0	31.7	32.2	32.7							32.8	42
43	30.3	30.5	30.8	31.0	31.2	31.8	32.5	33.0	33.5							33.8	43
44	31.0	31.3	31.6	31.8	32.0	32.6	33.3	33.9	34.4							34.7	44
45	31.8	32.1	32.3	32.6	32.8	33.4	34.1	34.7	35.2	35.6						35.6	45
46	32.6	32.9	33.1	33.4	33.6	34.2	34.9	35.5	36.0	36.5						36.5	46
47	33.4	33.7	33.9	34.2	34.4	35.0	35.8	36.4	36.9	37.3						37.5	47
48	34.1	34.4	34.7	35.0	35.2	35.8	36.6	37.2	37.7	38.2						38.4	48
49	34.9	35.2	35.5	35.8	36.0	36.6	37.4	38.1	38.6	39.0						39.3	49
50	35.7	36.0	36.3	36.5	36.8	37.4	38.2	38.9	39.4	39.9	40.3					40.3	50
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	6.28	12.2	17.1	21.1	24.2	26.8	28.6	30.0	31.1	32.0	32.8	33.5	34.0	34.5	34.9	35.3
51	6.41	12.4	17.5	21.5	24.7	27.3	29.2	30.6	31.8	32.7	33.5	34.2	34.8	35.3	35.7	36.1
52	6.53	12.7	17.8	21.9	25.2	27.8	29.8	31.2	32.4	33.4	34.2	34.9	35.5	36.0	36.5	36.9
53	6.66	12.9	18.2	22.3	25.7	28.4	30.4	31.9	33.1	34.1	34.9	35.6	36.2	36.8	37.2	37.6
54	6.79	13.2	18.5	22.8	26.2	28.9	31.0	32.5	33.8	34.8	35.6	36.4	37.0	37.5	38.0	38.4
55	6.91	13.4	18.8	23.2	26.6	29.4	31.5	33.1	34.4	35.5	36.3	37.1	37.7	38.3	38.8	39.2
56	7.04	13.6	19.2	23.6	27.1	30.0	32.1	33.8	35.1	36.2	37.0	37.8	38.5	39.0	39.5	40.0
57	7.16	13.9	19.5	24.0	27.6	30.5	32.7	34.4	35.7	36.8	37.8	38.5	39.2	39.8	40.3	40.7
58	7.29	14.1	19.9	24.5	28.1	31.0	33.3	35.0	36.4	37.5	38.5	39.3	39.9	40.5	41.0	41.5
59	7.41	14.4	20.2	24.9	28.6	31.6	33.9	35.7	37.1	38.2	39.2	40.0	40.7	41.3	41.8	42.3
60	7.54	14.6	20.6	25.3	29.1	32.1	34.5	36.3	37.7	38.9	39.9	40.7	41.4	42.0	42.6	43.0
61	7.66	14.9	20.9	25.7	29.6	32.6	35.1	36.9	38.4	39.6	40.6	41.4	42.2	42.8	43.3	43.8
62	7.79	15.1	21.2	26.1	30.0	33.2	35.7	37.6	39.1	40.3	41.3	42.2	42.9	43.5	44.1	44.6
63	7.92	15.3	21.6	26.6	30.5	33.7	36.3	38.2	39.7	41.0	42.0	42.9	43.6	44.3	44.9	45.4
64	8.04	15.6	21.9	27.0	31.0	34.3	36.9	38.8	40.4	41.7	42.7	43.6	44.4	45.0	45.6	46.1
65	8.17	15.8	22.3	27.4	31.5	34.8	37.5	39.5	41.0	42.3	43.4	44.3	45.1	45.8	46.4	46.9
66	8.29	16.1	22.6	27.8	32.0	35.3	38.1	40.1	41.7	43.0	44.1	45.1	45.9	46.6	47.2	47.7
67	8.42	16.3	23.0	28.3	32.5	35.9	38.6	40.7	42.4	43.7	44.8	45.8	46.6	47.3	47.9	48.5
68	8.54	16.6	23.3	28.7	32.9	36.4	39.2	41.3	43.0	44.4	45.6	46.5	47.4	48.1	48.7	49.3
69	8.67	16.8	23.6	29.1	33.4	36.9	39.8	42.0	43.7	45.1	46.3	47.3	48.1	48.8	49.5	50.0
70	8.80	17.1	24.0	29.5	33.9	37.5	40.4	42.6	44.4	45.8	47.0	48.0	48.8	49.6	50.2	50.8
71	8.92	17.3	24.3	29.9	34.4	38.0	40.9	43.2	45.0	46.5	47.7	48.7	49.6	50.3	51.0	51.6
72	9.05	17.5	24.7	30.4	34.9	38.5	41.5	43.9	45.7	47.2	48.4	49.4	50.3	51.1	51.8	52.4
73	9.17	17.8	25.0	30.8	35.4	39.1	42.1	44.5	46.3	47.8	49.1	50.2	51.1	51.8	52.5	53.1
74	9.30	18.0	25.4	31.2	35.9	39.6	42.7	45.1	47.0	48.5	49.8	50.9	51.8	52.6	53.3	53.9
75	9.42	18.3	25.7	31.6	36.3	40.1	43.2	45.7	47.6	49.2	50.5	51.6	52.6	53.4	54.1	54.7
76	9.55	18.5	26.0	32.0	36.8	40.7	43.8	46.4	48.3	49.9	51.2	52.3	53.3	54.1	54.8	55.5
77	9.68	18.8	26.4	32.5	37.3	41.2	44.4	47.0	49.0	50.6	51.9	53.1	54.0	54.9	55.6	56.3
78	9.80	19.0	26.7	32.9	37.8	41.7	45.0	47.6	49.6	51.3	52.6	53.8	54.8	55.6	56.4	57.0
79	9.93	19.2	27.1	33.3	38.3	42.3	45.5	48.2	50.3	52.0	53.3	54.5	55.5	56.4	57.1	57.8
80	10.1	19.5	27.4	33.7	38.8	42.8	46.1	48.9	50.9	52.6	54.1	55.2	56.3	57.1	57.9	58.6
81	10.2	19.7	27.8	34.2	39.2	43.3	46.7	49.5	51.6	53.3	54.8	56.0	57.0	57.9	58.7	59.4
82	10.3	20.0	28.1	34.6	39.7	43.9	47.3	50.1	52.2	54.0	55.5	56.7	57.8	58.7	59.5	60.1
83	10.4	20.2	28.4	35.0	40.2	44.4	47.9	50.7	52.9	54.7	56.2	57.4	58.5	59.4	60.2	60.9
84	10.6	20.5	28.8	35.4	40.7	45.0	48.4	51.3	53.6	55.4	56.9	58.2	59.2	60.2	61.0	61.7
85	10.7	20.7	29.1	35.8	41.2	45.5	49.0	51.9	54.2	56.1	57.6	58.9	60.0	60.9	61.8	62.5
86	10.8	20.9	29.5	36.3	41.7	46.0	49.6	52.5	54.9	56.7	58.3	59.6	60.7	61.7	62.5	63.3
87	10.9	21.2	29.8	36.7	42.2	46.6	50.2	53.1	55.5	57.4	59.0	60.3	61.5	62.4	63.3	64.0
88	11.1	21.4	30.2	37.1	42.6	47.1	50.7	53.8	56.2	58.1	59.7	61.1	62.2	63.2	64.1	64.8
89	11.2	21.7	30.5	37.5	43.1	47.6	51.3	54.4	56.8	58.8	60.4	61.8	62.9	64.0	64.8	65.6
90	11.3	21.9	30.8	37.9	43.6	48.2	51.9	55.0	57.5	59.5	61.1	62.5	63.7	64.7	65.6	66.4
91	11.4	22.2	31.2	38.4	44.1	48.7	52.5	55.6	58.1	60.1	61.8	63.2	64.4	65.5	66.4	67.2
92	11.6	22.4	31.5	38.8	44.6	49.2	53.0	56.2	58.8	60.8	62.5	64.0	65.2	66.2	67.1	67.9
93	11.7	22.7	31.9	39.2	45.1	49.8	53.6	56.8	59.4	61.5	63.2	64.7	65.9	67.0	67.9	68.7
94	11.8	22.9	32.2	39.6	45.5	50.3	54.2	57.4	60.1	62.2	63.9	65.4	66.7	67.7	68.7	69.5
95	11.9	23.1	32.6	40.1	46.0	50.8	54.8	58.0	60.7	62.9	64.6	66.1	67.4	68.5	69.5	70.3
96	12.1	23.4	32.9	40.5	46.5	51.4	55.4	58.6	61.4	63.5	65.3	66.9	68.1	69.3	70.2	71.1
97	12.2	23.6	33.2	40.9	47.0	51.9	55.9	59.3	62.0	64.2	66.0	67.6	68.9	70.0	71.0	71.9
98	12.3	23.9	33.6	41.3	47.5	52.4	56.5	59.9	62.7	64.9	66.7	68.3	69.6	70.8	71.8	72.6
99	12.4	24.1	33.9	41.7	48.0	53.0	57.1	60.5	63.3	65.6	67.4	69.0	70.4	71.5	72.5	73.4
100	12.6	24.4	34.3	42.2	48.5	53.5	57.7	61.1	64.0	66.3	68.1	69.7	71.1	72.3	73.3	74.2
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																				k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110							
50	35.7	36.0	36.3	36.5	36.8	37.4	38.2	38.9	39.4	39.9	40.3										40.3	50
51	36.5	36.8	37.1	37.3	37.6	38.2	39.1	39.7	40.3	40.7	41.1										41.2	51
52	37.2	37.6	37.9	38.1	38.4	39.1	39.9	40.6	41.1	41.6	42.0										42.1	52
53	38.0	38.4	38.7	38.9	39.2	39.9	40.7	41.4	42.0	42.4	42.8										43.1	53
54	38.8	39.1	39.4	39.7	40.0	40.7	41.6	42.3	42.8	43.3	43.7										44.0	54
55	39.6	39.9	40.2	40.5	40.8	41.5	42.4	43.1	43.7	44.2	44.6										44.9	55
56	40.4	40.7	41.0	41.3	41.6	42.3	43.2	43.9	44.5	45.0	45.4										45.9	56
57	41.1	41.5	41.8	42.1	42.4	43.1	44.1	44.8	45.4	45.9	46.3										46.8	57
58	41.9	42.3	42.6	42.9	43.2	44.0	44.9	45.6	46.2	46.7	47.2										47.8	58
59	42.7	43.1	43.4	43.7	44.0	44.8	45.7	46.5	47.1	47.6	48.0										48.7	59
60	43.5	43.9	44.2	44.5	44.8	45.6	46.6	47.3	47.9	48.5	48.9	49.6									49.6	60
61	44.3	44.7	45.0	45.3	45.6	46.4	47.4	48.2	48.8	49.3	49.8	50.5									50.6	61
62	45.0	45.4	45.8	46.1	46.4	47.2	48.2	49.0	49.7	50.2	50.6	51.4									51.5	62
63	45.8	46.2	46.6	46.9	47.3	48.1	49.1	49.9	50.5	51.0	51.5	52.3									52.5	63
64	46.6	47.0	47.4	47.7	48.1	48.9	49.9	50.7	51.4	51.9	52.4	53.2									53.4	64
65	47.4	47.8	48.2	48.6	48.9	49.7	50.8	51.6	52.2	52.8	53.3	54.0									54.4	65
66	48.2	48.6	49.0	49.4	49.7	50.5	51.6	52.4	53.1	53.6	54.1	54.9									55.3	66
67	49.0	49.4	49.8	50.2	50.5	51.3	52.4	53.3	53.9	54.5	55.0	55.8									56.3	67
68	49.7	50.2	50.6	51.0	51.3	52.2	53.3	54.1	54.8	55.4	55.9	56.7									57.2	68
69	50.5	51.0	51.4	51.8	52.1	53.0	54.1	55.0	55.7	56.3	56.7	57.6									58.2	69
70	51.3	51.8	52.2	52.6	52.9	53.8	55.0	55.8	56.5	57.1	57.6	58.5	59.1								59.1	70
71	52.1	52.6	53.0	53.4	53.7	54.6	55.8	56.7	57.4	58.0	58.5	59.3	60.0								60.1	71
72	52.9	53.4	53.8	54.2	54.6	55.5	56.6	57.5	58.3	58.9	59.4	60.2	60.9								61.0	72
73	53.7	54.2	54.6	55.0	55.4	56.3	57.5	58.4	59.1	59.7	60.2	61.1	61.8								62.0	73
74	54.5	55.0	55.4	55.8	56.2	57.1	58.3	59.3	60.0	60.6	61.1	62.0	62.7								62.9	74
75	55.3	55.8	56.2	56.6	57.0	58.0	59.2	60.1	60.9	61.5	62.0	62.9	63.6								63.9	75
76	56.0	56.5	57.0	57.4	57.8	58.8	60.0	61.0	61.7	62.3	62.9	63.8	64.5								64.9	76
77	56.8	57.3	57.8	58.2	58.6	59.6	60.9	61.8	62.6	63.2	63.8	64.7	65.4								65.8	77
78	57.6	58.1	58.6	59.0	59.4	60.4	61.7	62.7	63.5	64.1	64.6	65.5	66.3								66.8	78
79	58.4	58.9	59.4	59.9	60.3	61.3	62.6	63.5	64.3	65.0	65.5	66.4	67.2								67.7	79
80	59.2	59.7	60.2	60.7	61.1	62.1	63.4	64.4	65.2	65.8	66.4	67.3	68.1								68.7	80
81	60.0	60.5	61.0	61.5	61.9	62.9	64.3	65.3	66.1	66.7	67.3	68.2	69.0								69.6	81
82	60.8	61.3	61.8	62.3	62.7	63.8	65.1	66.1	66.9	67.6	68.2	69.1	69.9								70.6	82
83	61.6	62.1	62.6	63.1	63.5	64.6	66.0	67.0	67.8	68.5	69.0	70.0	70.8								71.6	83
84	62.3	62.9	63.4	63.9	64.3	65.4	66.8	67.8	68.7	69.3	69.9	70.9	71.7								72.5	84
85	63.1	63.7	64.2	64.7	65.1	66.3	67.6	68.7	69.5	70.2	70.8	71.8	72.6								73.5	85
86	63.9	64.5	65.0	65.5	66.0	67.1	68.5	69.6	70.4	71.1	71.7	72.7	73.4								74.5	86
87	64.7	65.3	65.9	66.3	66.8	67.9	69.3	70.4	71.3	72.0	72.6	73.6	74.3								75.4	87
88	65.5	66.1	66.7	67.2	67.6	68.8	70.2	71.3	72.1	72.9	73.5	74.5	75.2								76.4	88
89	66.3	66.9	67.5	68.0	68.4	69.6	71.0	72.1	73.0	73.7	74.3	75.3	76.1								77.3	89
90	67.1	67.7	68.3	68.8	69.2	70.4	71.9	73.0	73.9	74.6	75.2	76.2	77.0	78.3							78.3	90
91	67.9	68.5	69.1	69.6	70.1	71.2	72.7	73.9	74.8	75.5	76.1	77.1	77.9	79.2							79.3	91
92	68.7	69.3	69.9	70.4	70.9	72.1	73.6	74.7	75.6	76.4	77.0	78.0	78.8	80.1							80.2	92
93	69.5	70.1	70.7	71.2	71.7	72.9	74.4	75.6	76.5	77.2	77.9	78.9	79.7	81.0							81.2	93
94	70.2	70.9	71.5	72.0	72.5	73.8	75.3	76.5	77.4	78.1	78.8	79.8	80.7	81.9							82.2	94
95	71.0	71.7	72.3	72.8	73.3	74.6	76.2	77.3	78.2	79.0	79.7	80.7	81.6	82.9							83.1	95
96	71.8	72.5	73.1	73.7	74.2	75.4	77.0	78.2	79.1	79.9	80.5	81.6	82.5	83.8							84.1	96
97	72.6	73.3	73.9	74.5	75.0	76.3	77.9	79.1	80.0	80.8	81.4	82.5	83.4	84.7							85.1	97
98	73.4	74.1	74.7	75.3	75.8	77.1	78.7	79.9	80.9	81.7	82.3	83.4	84.3	85.6							86.0	98
99	74.2	74.9	75.5	76.1	76.6	77.9	79.6	80.8	81.7	82.5	83.2	84.3	85.2	86.5							87.0	99
100	75.0	75.7	76.3	76.9	77.4	78.8	80.4	81.7	82.6	83.4	84.1	85.2	86.1	87.4							88.0	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110						k=N	N
	k																					

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	12.6	24.4	34.3	42.2	48.5	53.5	57.7	61.1	64.0	66.3	68.1	69.7	71.1	72.3	73.3	74.2
102	12.8	24.8	35.0	43.0	49.4	54.6	58.8	62.3	65.3	67.6	69.5	71.2	72.6	73.8	74.8	75.8
104	13.1	25.3	35.6	43.9	50.4	55.7	60.0	63.5	66.5	69.0	71.0	72.6	74.1	75.3	76.4	77.3
106	13.3	25.8	36.3	44.7	51.4	56.7	61.1	64.8	67.8	70.3	72.4	74.1	75.5	76.8	77.9	78.9
108	13.6	26.3	37.0	45.5	52.3	57.8	62.3	66.0	69.1	71.7	73.8	75.5	77.0	78.3	79.4	80.4
110	13.8	26.8	37.7	46.4	53.3	58.9	63.4	67.2	70.4	73.0	75.1	77.0	78.5	79.8	81.0	82.0
112	14.1	27.3	38.4	47.2	54.3	59.9	64.6	68.4	71.7	74.3	76.5	78.4	80.0	81.3	82.5	83.6
114	14.3	27.8	39.1	48.1	55.2	61.0	65.7	69.6	72.9	75.7	77.9	79.8	81.5	82.8	84.1	85.1
116	14.6	28.3	39.8	48.9	56.2	62.1	66.9	70.9	74.2	77.0	79.3	81.3	82.9	84.4	85.6	86.7
118	14.8	28.7	40.4	49.8	57.2	63.1	68.0	72.1	75.5	78.3	80.7	82.7	84.4	85.9	87.1	88.2
120	15.1	29.2	41.1	50.6	58.1	64.2	69.2	73.3	76.8	79.6	82.1	84.1	85.9	87.4	88.7	89.8
122	15.3	29.7	41.8	51.4	59.1	65.3	70.3	74.5	78.1	81.0	83.5	85.6	87.4	88.9	90.2	91.4
124	15.6	30.2	42.5	52.3	60.1	66.4	71.5	75.8	79.3	82.3	84.9	87.0	88.8	90.4	91.7	92.9
126	15.8	30.7	43.2	53.1	61.1	67.4	72.6	77.0	80.6	83.6	86.2	88.5	90.3	91.9	93.3	94.5
128	16.1	31.2	43.9	54.0	62.0	68.5	73.8	78.2	81.9	84.9	87.6	89.9	91.8	93.4	94.8	96.0
130	16.3	31.7	44.5	54.8	63.0	69.6	75.0	79.4	83.2	86.3	89.0	91.3	93.2	94.9	96.3	97.6
132	16.6	32.2	45.2	55.7	64.0	70.6	76.1	80.6	84.5	87.6	90.3	92.7	94.7	96.4	97.9	99.1
134	16.8	32.6	45.9	56.5	64.9	71.7	77.3	81.9	85.7	88.9	91.7	94.1	96.2	97.9	99.4	100.7
136	17.1	33.1	46.6	57.3	65.9	72.8	78.4	83.1	87.0	90.3	93.1	95.5	97.6	99.4	100.9	102.3
138	17.3	33.6	47.3	58.2	66.9	73.9	79.6	84.3	88.3	91.6	94.4	96.9	99.1	100.9	102.4	103.8
140	17.6	34.1	48.0	59.0	67.8	74.9	80.7	85.5	89.6	92.9	95.8	98.3	100.6	102.4	104.0	105.4
142	17.8	34.6	48.7	59.9	68.8	76.0	81.9	86.7	90.8	94.2	97.2	99.7	102.0	103.9	105.5	106.9
144	18.1	35.1	49.3	60.7	69.8	77.1	83.0	88.0	92.1	95.6	98.5	101.1	103.4	105.4	107.0	108.5
146	18.3	35.6	50.0	61.6	70.7	78.1	84.2	89.2	93.4	96.9	99.9	102.5	104.9	106.9	108.6	110.0
148	18.6	36.0	50.7	62.4	71.7	79.2	85.3	90.4	94.7	98.2	101.3	104.0	106.3	108.4	110.1	111.6
150	18.8	36.5	51.4	63.2	72.7	80.3	86.5	91.6	96.0	99.6	102.7	105.4	107.7	109.9	111.6	113.1
152	19.1	37.0	52.1	64.1	73.6	81.3	87.6	92.9	97.2	100.9	104.0	106.8	109.2	111.3	113.1	114.7
154	19.4	37.5	52.8	64.9	74.6	82.4	88.8	94.1	98.5	102.2	105.4	108.2	110.6	112.8	114.7	116.2
156	19.6	38.0	53.5	65.8	75.6	83.5	89.9	95.3	99.8	103.5	106.8	109.6	112.1	114.3	116.2	117.8
158	19.9	38.5	54.1	66.6	76.6	84.6	91.1	96.5	101.1	104.9	108.1	111.0	113.5	115.7	117.7	119.3
160	20.1	39.0	54.8	67.5	77.5	85.6	92.3	97.7	102.4	106.2	109.5	112.4	114.9	117.2	119.2	120.9
162	20.4	39.5	55.5	68.3	78.5	86.7	93.4	99.0	103.6	107.5	110.9	113.8	116.4	118.7	120.7	122.4
164	20.6	39.9	56.2	69.2	79.5	87.8	94.6	100.2	104.9	108.8	112.2	115.2	117.8	120.1	122.2	124.0
166	20.9	40.4	56.9	70.0	80.4	88.8	95.7	101.4	106.2	110.2	113.6	116.6	119.2	121.6	123.7	125.5
168	21.1	40.9	57.6	70.8	81.4	89.9	96.9	102.6	107.5	111.5	115.0	118.0	120.7	123.1	125.2	127.1
170	21.4	41.4	58.3	71.7	82.4	91.0	98.0	103.9	108.8	112.8	116.3	119.4	122.1	124.5	126.7	128.6
172	21.6	41.9	58.9	72.5	83.3	92.0	99.2	105.1	110.0	114.2	117.7	120.8	123.6	126.0	128.2	130.1
174	21.9	42.4	59.6	73.4	84.3	93.1	100.3	106.3	111.3	115.5	119.1	122.2	125.0	127.4	129.7	131.6
176	22.1	42.9	60.3	74.2	85.3	94.2	101.5	107.5	112.6	116.8	120.4	123.6	126.4	128.9	131.1	133.2
178	22.4	43.4	61.0	75.1	86.2	95.3	102.6	108.7	113.9	118.1	121.8	125.0	127.9	130.4	132.6	134.7
180	22.6	43.8	61.7	75.9	87.2	96.3	103.8	110.0	115.2	119.5	123.2	126.4	129.3	131.8	134.1	136.2
182	22.9	44.3	62.4	76.7	88.2	97.4	104.9	111.2	116.4	120.8	124.5	127.8	130.7	133.3	135.6	137.7
184	23.1	44.8	63.1	77.6	89.2	98.5	106.1	112.4	117.7	122.1	125.9	129.2	132.2	134.8	137.1	139.2
186	23.4	45.3	63.7	78.4	90.1	99.5	107.2	113.6	119.0	123.4	127.3	130.6	133.6	136.2	138.6	140.7
188	23.6	45.8	64.4	79.3	91.1	100.6	108.4	114.9	120.3	124.8	128.7	132.1	135.0	137.7	140.1	142.2
190	23.9	46.3	65.1	80.1	92.1	101.7	109.5	116.1	121.6	126.1	130.0	133.5	136.5	139.2	141.6	143.7
192	24.1	46.8	65.8	81.0	93.0	102.8	110.7	117.3	122.8	127.4	131.4	134.9	137.9	140.6	143.1	145.3
194	24.4	47.3	66.5	81.8	94.0	103.8	111.9	118.5	124.1	128.8	132.8	136.3	139.4	142.1	144.6	146.8
196	24.6	47.7	67.2	82.6	95.0	104.9	113.0	119.7	125.4	130.1	134.1	137.7	140.8	143.6	146.0	148.3
198	24.9	48.2	67.9	83.5	95.9	106.0	114.2	121.0	126.7	131.4	135.5	139.1	142.2	145.0	147.5	149.8
200	25.1	48.7	68.5	84.3	96.9	107.0	115.3	122.2	128.0	132.7	136.9	140.5	143.7	146.5	149.0	151.3
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
100	75.0	75.7	76.3	76.9	77.4	78.8	80.4	81.7	82.6	83.4	84.1	85.2	86.1	87.4		88.0
102	76.6	77.3	77.9	78.5	79.1	80.4	82.1	83.4	84.4	85.2	85.9	87.0	87.9	89.3		89.9
104	78.1	78.9	79.6	80.2	80.7	82.1	83.8	85.1	86.1	87.0	87.6	88.8	89.7	91.1		91.9
106	79.7	80.5	81.2	81.8	82.4	83.8	85.5	86.9	87.9	88.7	89.4	90.6	91.5	92.9		93.8
108	81.3	82.1	82.8	83.4	84.0	85.5	87.3	88.6	89.6	90.5	91.2	92.4	93.3	94.7		95.7
110	82.9	83.7	84.4	85.1	85.6	87.1	89.0	90.3	91.4	92.3	93.0	94.2	95.1	96.6	97.7	97.7
112	84.5	85.3	86.0	86.7	87.3	88.8	90.7	92.1	93.1	94.0	94.8	96.0	96.9	98.4	99.5	99.6
114	86.1	86.9	87.6	88.3	88.9	90.5	92.4	93.8	94.9	95.8	96.6	97.8	98.8	100.2	101.4	101.6
116	87.6	88.5	89.3	89.9	90.6	92.2	94.1	95.5	96.7	97.6	98.3	99.6	100.6	102.1	103.2	103.5
118	89.2	90.1	90.9	91.6	92.2	93.8	95.8	97.3	98.4	99.4	100.1	101.4	102.4	103.9	105.1	105.5
120	90.8	91.7	92.5	93.2	93.9	95.5	97.5	99.0	100.2	101.1	101.9	103.2	104.2	105.8	106.9	107.4
122	92.4	93.3	94.1	94.8	95.5	97.2	99.3	100.8	102.0	102.9	103.7	105.0	106.0	107.6	108.8	109.4
124	94.0	94.9	95.7	96.5	97.2	98.9	101.0	102.5	103.7	104.7	105.5	106.8	107.8	109.4	110.6	111.3
126	95.5	96.5	97.3	98.1	98.8	100.5	102.7	104.3	105.5	106.5	107.3	108.6	109.7	111.3	112.5	113.3
128	97.1	98.1	99.0	99.7	100.4	102.2	104.4	106.0	107.2	108.2	109.1	110.4	111.5	113.1	114.3	115.2
130	98.7	99.7	100.6	101.4	102.1	103.9	106.1	107.8	109.0	110.0	110.9	112.2	113.3	115.0	116.2	117.2
132	100.3	101.3	102.2	103.0	103.7	105.6	107.9	109.5	110.8	111.8	112.7	114.1	115.1	116.8	118.1	119.1
134	101.9	102.9	103.8	104.6	105.4	107.3	109.6	111.2	112.5	113.6	114.5	115.9	117.0	118.6	119.9	121.1
136	103.4	104.5	105.4	106.3	107.0	108.9	111.3	113.0	114.3	115.4	116.3	117.7	118.8	120.5	121.8	123.1
138	105.0	106.1	107.0	107.9	108.7	110.6	113.0	114.7	116.1	117.2	118.1	119.5	120.6	122.3	123.6	125.0
140	106.6	107.7	108.7	109.5	110.3	112.3	114.7	116.5	117.9	118.9	119.9	121.3	122.5	124.2	125.5	127.0
142	108.2	109.3	110.3	111.2	112.0	114.0	116.5	118.2	119.6	120.7	121.7	123.1	124.3	126.0	127.3	128.9
144	109.7	110.9	111.9	112.8	113.6	115.7	118.2	120.0	121.4	122.5	123.5	124.9	126.1	127.9	129.2	130.9
146	111.3	112.5	113.5	114.4	115.3	117.4	119.9	121.7	123.2	124.3	125.3	126.8	127.9	129.7	131.1	132.9
148	112.9	114.1	115.1	116.1	116.9	119.0	121.6	123.5	124.9	126.1	127.1	128.6	129.8	131.6	132.9	134.8
150	114.5	115.7	116.7	117.7	118.6	120.7	123.4	125.3	126.7	127.9	128.9	130.4	131.6	133.4	134.8	136.8
152	116.0	117.3	118.3	119.3	120.2	122.4	125.1	127.0	128.5	129.7	130.7	132.2	133.4	135.3	136.7	138.8
154	117.6	118.9	120.0	120.9	121.8	124.1	126.8	128.8	130.3	131.5	132.5	134.0	135.3	137.1	138.5	140.7
156	119.2	120.5	121.6	122.6	123.5	125.8	128.5	130.5	132.0	133.2	134.3	135.9	137.1	139.0	140.4	142.7
158	120.8	122.0	123.2	124.2	125.1	127.4	130.3	132.3	133.8	135.0	136.1	137.7	138.9	140.8	142.3	144.7
160	122.3	123.6	124.8	125.8	126.8	129.1	132.0	134.0	135.6	136.8	137.9	139.5	140.8	142.7	144.1	146.6
162	123.9	125.2	126.4	127.5	128.4	130.8	133.7	135.8	137.4	138.6	139.7	141.3	142.6	144.6	146.0	148.6
164	125.5	126.8	128.0	129.1	130.1	132.5	135.4	137.5	139.1	140.4	141.5	143.2	144.5	146.4	147.9	150.6
166	127.1	128.4	129.6	130.7	131.7	134.2	137.2	139.3	140.9	142.2	143.3	145.0	146.3	148.3	149.7	152.6
168	128.6	130.0	131.2	132.4	133.4	135.9	138.9	141.0	142.7	144.0	145.1	146.8	148.1	150.1	151.6	154.5
170	130.2	131.6	132.9	134.0	135.0	137.5	140.6	142.8	144.5	145.8	146.9	148.6	150.0	152.0	153.5	156.5
172	131.8	133.2	134.5	135.6	136.6	139.2	142.3	144.6	146.2	147.6	148.7	150.5	151.8	153.8	155.3	158.5
174	133.3	134.8	136.1	137.2	138.3	140.9	144.1	146.3	148.0	149.4	150.5	152.3	153.7	155.7	157.2	160.4
176	134.9	136.4	137.7	138.9	139.9	142.6	145.8	148.1	149.8	151.2	152.3	154.1	155.5	157.6	159.1	162.4
178	136.5	138.0	139.3	140.5	141.6	144.3	147.5	149.8	151.6	153.0	154.1	155.9	157.3	159.4	161.0	164.4
180	138.0	139.6	140.9	142.1	143.2	146.0	149.2	151.6	153.4	154.8	155.9	157.8	159.2	161.3	162.8	166.4
182	139.6	141.1	142.5	143.8	144.9	147.6	151.0	153.3	155.1	156.6	157.7	159.6	161.0	163.1	164.7	168.3
184	141.1	142.7	144.1	145.4	146.5	149.3	152.7	155.1	156.9	158.4	159.6	161.4	162.9	165.0	166.6	170.3
186	142.6	144.3	145.7	147.0	148.2	151.0	154.4	156.9	158.7	160.2	161.4	163.3	164.7	166.9	168.5	172.3
188	144.2	145.9	147.3	148.6	149.8	152.7	156.2	158.6	160.5	162.0	163.2	165.1	166.6	168.7	170.3	174.3
190	145.7	147.5	148.9	150.3	151.4	154.4	157.9	160.4	162.3	163.8	165.0	166.9	168.4	170.6	172.2	176.3
192	147.2	149.0	150.6	151.9	153.1	156.0	159.6	162.1	164.1	165.6	166.8	168.8	170.2	172.5	174.1	178.2
194	148.8	150.6	152.2	153.5	154.7	157.7	161.3	163.9	165.8	167.4	168.6	170.6	172.1	174.3	176.0	180.2
196	150.3	152.2	153.8	155.1	156.4	159.4	163.1	165.7	167.6	169.2	170.4	172.4	173.9	176.2	177.8	182.2
198	151.8	153.7	155.4	156.8	158.0	161.1	164.8	167.4	169.4	171.0	172.2	174.2	175.8	178.0	179.7	184.2
200	153.4	155.3	157.0	158.4	159.6	162.8	166.5	169.2	171.2	172.8	174.1	176.1	177.6	179.9	181.6	186.2
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	25.1	48.7	68.5	84.3	96.9	107.0	115.3	122.2	128.0	132.7	136.9	140.5	143.7	146.5	149.0	151.3
202	25.4	49.2	69.2	85.2	97.9	108.1	116.5	123.4	129.2	134.1	138.2	141.9	145.1	148.0	150.5	152.8
204	25.6	49.7	69.9	86.0	98.8	109.2	117.6	124.6	130.5	135.4	139.6	143.3	146.5	149.4	152.0	154.3
206	25.9	50.2	70.6	86.9	99.8	110.2	118.8	125.8	131.8	136.7	141.0	144.7	148.0	150.9	153.5	155.8
208	26.1	50.7	71.3	87.7	100.8	111.3	119.9	127.1	133.1	138.0	142.3	146.1	149.4	152.4	155.0	157.4
210	26.4	51.2	72.0	88.5	101.8	112.4	121.1	128.3	134.4	139.4	143.7	147.5	150.8	153.8	156.5	158.9
212	26.6	51.6	72.6	89.4	102.7	113.5	122.2	129.5	135.6	140.7	145.1	148.9	152.3	155.3	158.0	160.4
214	26.9	52.1	73.3	90.2	103.7	114.5	123.4	130.7	136.9	142.0	146.4	150.3	153.7	156.7	159.5	161.9
216	27.1	52.6	74.0	91.1	104.7	115.6	124.5	132.0	138.2	143.4	147.8	151.7	155.2	158.2	160.9	163.4
218	27.4	53.1	74.7	91.9	105.6	116.7	125.7	133.2	139.5	144.7	149.2	153.1	156.6	159.7	162.4	164.9
220	27.6	53.6	75.4	92.8	106.6	117.7	126.8	134.4	140.8	146.0	150.6	154.5	158.0	161.1	163.9	166.4
222	27.9	54.1	76.1	93.6	107.6	118.8	128.0	135.6	142.0	147.3	151.9	155.9	159.5	162.6	165.4	168.0
224	28.1	54.6	76.8	94.5	108.5	119.9	129.2	136.8	143.3	148.7	153.3	157.3	160.9	164.1	166.9	169.5
226	28.4	55.0	77.4	95.3	109.5	120.9	130.3	138.1	144.6	150.0	154.7	158.7	162.3	165.5	168.4	171.0
228	28.6	55.5	78.1	96.1	110.5	122.0	131.5	139.3	145.9	151.3	156.0	160.1	163.8	167.0	169.9	172.5
230	28.9	56.0	78.8	97.0	111.4	123.1	132.6	140.5	147.2	152.6	157.4	161.6	165.2	168.5	171.4	174.0
232	29.2	56.5	79.5	97.8	112.4	124.2	133.8	141.7	148.4	154.0	158.8	163.0	166.6	169.9	172.9	175.5
234	29.4	57.0	80.2	98.7	113.4	125.2	134.9	143.0	149.7	155.3	160.1	164.4	168.1	171.4	174.4	177.0
236	29.7	57.5	80.9	99.5	114.3	126.3	136.1	144.2	151.0	156.6	161.5	165.8	169.5	172.9	175.9	178.5
238	29.9	58.0	81.6	100.4	115.3	127.4	137.2	145.4	152.3	158.0	162.9	167.2	171.0	174.3	177.3	180.1
240	30.2	58.5	82.2	101.2	116.3	128.4	138.4	146.6	153.5	159.3	164.2	168.6	172.4	175.8	178.8	181.6
242	30.4	58.9	82.9	102.0	117.3	129.5	139.5	147.8	154.8	160.6	165.6	170.0	173.8	177.3	180.3	183.1
244	30.7	59.4	83.6	102.9	118.2	130.6	140.7	149.1	156.1	161.9	167.0	171.4	175.3	178.7	181.8	184.6
246	30.9	59.9	84.3	103.7	119.2	131.7	141.8	150.3	157.4	163.3	168.3	172.8	176.7	180.2	183.3	186.1
248	31.2	60.4	85.0	104.6	120.2	132.7	143.0	151.5	158.7	164.6	169.7	174.2	178.1	181.7	184.8	187.6
250	31.4	60.9	85.7	105.4	121.1	133.8	144.1	152.7	159.9	165.9	171.1	175.6	179.6	183.1	186.3	189.1
	.126	.244	.342	.422	.486	.534	.578	.612	.640	.664	.684	.702	.718	.732	.744	.758
300	37.7	73.1	102.8	126.5	145.4	160.5	173.0	183.3	191.9	199.1	205.3	210.7	215.5	219.7	223.5	227.0
	.126	.244	.342	.422	.484	.536	.576	.610	.640	.664	.684	.702	.718	.734	.746	.756
350	44.0	85.3	119.9	147.6	169.6	187.3	201.8	213.8	223.9	232.3	239.5	245.8	251.4	256.4	260.8	264.8
	.126	.242	.344	.422	.484	.536	.576	.612	.640	.664	.684	.704	.718	.732	.746	.756
400	50.3	97.4	137.1	168.7	193.8	214.1	230.6	244.4	255.9	265.5	273.7	281.0	287.3	293.0	298.1	302.6
	.124	.244	.342	.420	.484	.534	.578	.610	.640	.664	.686	.702	.718	.732	.744	.756
450	56.5	109.6	154.2	189.7	218.0	240.8	259.5	274.9	287.9	298.7	308.0	316.1	323.2	329.6	335.3	340.4
	.126	.244	.342	.422	.486	.536	.576	.612	.640	.662	.684	.702	.720	.732	.746	.758
500	62.8	121.8	171.3	210.8	242.3	267.6	288.3	305.5	319.9	331.8	342.2	351.2	359.2	366.2	372.6	378.3
	.126	.243	.343	.422	.484	.535	.576	.610	.640	.664	.684	.702	.718	.733	.745	.756
600	75.4	146.1	205.6	253.0	290.7	321.1	345.9	366.5	383.9	398.2	410.6	421.4	431.0	439.5	447.1	453.9
	.126	.244	.343	.422	.485	.535	.577	.611	.639	.664	.684	.703	.718	.732	.745	.757
700	88.0	170.5	239.9	295.2	339.2	374.6	403.6	427.6	447.8	464.6	479.0	491.7	502.8	512.7	521.6	529.6
	.125	.244	.342	.421	.484	.535	.577	.611	.640	.663	.685	.702	.719	.733	.745	.756
800	100.5	194.9	274.1	337.3	387.6	428.1	461.3	488.7	511.8	530.9	547.5	561.9	574.7	586.0	596.1	605.2
	.126	.243	.343	.422	.485	.535	.576	.611	.640	.664	.684	.703	.718	.732	.745	.757
900	113.1	219.2	308.4	379.5	436.1	481.6	518.9	549.8	575.8	597.3	615.9	632.2	646.5	659.2	670.6	680.9
	.126	.244	.343	.422	.484	.536	.577	.611	.640	.664	.684	.702	.718	.733	.745	.756
1000	125.7	243.6	342.7	421.7	484.5	535.2	576.6	610.9	639.8	663.7	684.3	702.4	718.3	732.5	745.1	756.5
	.125	.243	.343	.421	.485	.535	.576	.611	.640	.663	.685	.702	.718	.732	.745	.757
1100	138.2	267.9	377.0	463.8	533.0	588.7	634.2	672.0	703.8	730.0	752.8	772.6	790.1	805.7	819.6	832.2
	.1257	.2436	.3427	.4217	.4845	.5352	.5766	.6109	.6398	.6637	.6843	.7024	.7183	.7325	.7451	.7565
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
153.4	155.3	157.0	158.4	159.6	162.8	166.5	169.2	171.2	172.8	174.1	176.1	177.6	179.9	181.6	186.2	200
154.9	156.8	158.5	160.0	161.3	164.5	168.3	170.9	173.0	174.6	175.9	177.9	179.5	181.8	183.5	188.1	202
156.4	158.4	160.1	161.6	162.9	166.1	170.0	172.7	174.8	176.4	177.7	179.8	181.3	183.6	185.4	190.1	204
158.0	159.9	161.7	163.2	164.6	167.8	171.7	174.5	176.5	178.2	179.5	181.6	183.2	185.5	187.2	192.1	206
159.5	161.5	163.3	164.9	166.2	169.5	173.4	176.2	178.3	180.0	181.3	183.4	185.0	187.4	189.1	194.1	208
161.0	163.0	164.8	166.5	167.8	171.2	175.2	178.0	180.1	181.8	183.1	185.3	186.9	189.2	191.0	196.1	210
162.6	164.6	166.4	168.1	169.5	172.9	176.9	179.8	181.9	183.6	185.0	187.1	188.7	191.1	192.9	198.1	212
164.1	166.1	168.0	169.7	171.1	174.5	178.6	181.5	183.7	185.4	186.8	188.9	190.6	193.0	194.8	200.0	214
165.6	167.7	169.5	171.2	172.7	176.2	180.4	183.3	185.5	187.2	188.6	190.8	192.4	194.9	196.6	202.0	216
167.2	169.2	171.1	172.8	174.4	177.9	182.1	185.0	187.3	189.0	190.4	192.6	194.3	196.7	198.5	204.0	218
168.7	170.8	172.7	174.4	176.0	179.6	183.8	186.8	189.0	190.8	192.2	194.4	196.1	198.6	200.4	206.0	220
170.2	172.3	174.2	176.0	177.6	181.3	185.5	188.6	190.8	192.6	194.0	196.3	198.0	200.5	202.3	208.0	222
171.8	173.9	175.8	177.6	179.2	182.9	187.3	190.3	192.6	194.4	195.9	198.1	199.8	202.3	204.2	210.0	224
173.3	175.4	177.4	179.2	180.8	184.6	189.0	192.1	194.4	196.2	197.7	200.0	201.7	204.2	206.1	212.0	226
174.8	177.0	179.0	180.8	182.4	186.3	190.7	193.9	196.2	198.0	199.5	201.8	203.5	206.1	207.9	213.9	228
176.4	178.5	180.5	182.3	184.0	188.0	192.5	195.6	198.0	199.8	201.3	203.6	205.4	208.0	209.8	215.9	230
177.9	180.1	182.1	183.9	185.6	189.6	194.2	197.4	199.8	201.6	203.1	205.5	207.2	209.8	211.7	217.9	232
179.4	181.6	183.7	185.5	187.2	191.3	195.9	199.1	201.5	203.4	205.0	207.3	209.1	211.7	213.6	219.9	234
181.0	183.2	185.2	187.1	188.8	193.0	197.7	200.9	203.3	205.2	206.8	209.2	211.0	213.6	215.5	221.9	236
182.5	184.8	186.8	188.7	190.4	194.7	199.4	202.7	205.1	207.0	208.6	211.0	212.8	215.4	217.4	223.9	238
184.0	186.3	188.4	190.3	192.0	196.4	201.1	204.4	206.9	208.8	210.4	212.8	214.7	217.3	219.3	225.9	240
185.6	187.9	189.9	191.9	193.6	198.0	202.8	206.2	208.7	210.7	212.2	214.7	216.5	219.2	221.1	227.9	242
187.1	189.4	191.5	193.4	195.2	199.7	204.6	208.0	210.5	212.5	214.1	216.5	218.4	221.1	223.0	229.9	244
188.6	191.0	193.1	195.0	196.8	201.4	206.3	209.7	212.3	214.3	215.9	218.4	220.2	222.9	224.9	231.8	246
190.2	192.5	194.7	196.6	198.4	203.1	208.0	211.5	214.1	216.1	217.7	220.2	222.1	224.8	226.8	233.8	248
191.7	194.1	196.2	198.2	200.0	204.7	209.7	213.3	215.9	217.9	219.5	222.0	223.9	226.7	228.7	235.8	250
.768	.776	.786	.792	.800	.820	.864	.880	.894	.904	.912	.924	.932	.940	.946	.998	
230.1	232.9	235.5	237.8	240.0	245.7	252.9	257.3	260.6	263.1	265.1	268.2	270.5	273.7	276.0	285.7	300
.766	.776	.784	.794	.800	.818	.844	.882	.896	.906	.914	.926	.932	.944	.950	1.000	
268.4	271.7	274.7	277.5	280.0	286.6	295.1	301.4	305.4	308.4	310.8	314.5	317.1	320.9	323.5	335.7	350
.766	.776	.786	.792	.800	.820	.842	.860	.894	.906	.914	.926	.936	.944	.952	1.004	
306.7	310.5	314.0	317.1	320.0	327.6	337.2	344.4	350.1	353.7	356.5	360.8	363.9	368.1	371.1	385.9	400
.768	.776	.784	.794	.800	.818	.844	.862	.874	.906	.916	.928	.936	.948	.954	1.004	
345.1	349.3	353.2	356.8	360.0	368.5	379.4	387.5	393.8	399.0	402.3	407.2	410.7	415.5	418.8	436.1	450
.766	.776	.784	.792	.800	.820	.842	.860	.876	.886	.914	.928	.938	.948	.956	1.006	
383.4	388.1	392.4	396.4	400.0	409.5	421.5	430.5	437.6	443.3	448.0	453.6	457.6	462.9	466.6	486.4	500
.767	.777	.785	.793	.800	.819	.843	.861	.875	.887	.896	.928	.938	.951	.957	1.008	
460.1	465.8	470.9	475.7	480.0	491.4	505.8	516.6	525.1	532.0	537.6	546.4	551.4	558.0	562.3	587.2	600
.767	.776	.785	.792	.801	.818	.843	.862	.875	.886	.896	.911	.939	.952	.960	1.010	
536.8	543.4	549.4	554.9	560.1	573.2	590.1	602.8	612.6	620.6	627.2	637.5	645.3	653.2	658.3	688.2	700
.767	.776	.785	.793	.800	.819	.843	.861	.876	.887	.896	.911	.921	.952	.960	1.011	
613.5	621.0	627.9	634.2	640.1	655.1	674.4	688.9	700.2	709.3	716.8	728.6	737.4	748.4	754.3	789.3	800
.767	.776	.785	.793	.800	.819	.843	.861	.875	.886	.896	.911	.922	.953	.962	1.013	
690.2	698.6	706.4	713.5	720.1	737.0	758.7	775.0	787.7	797.9	806.4	819.7	829.6	843.7	850.5	890.6	900
.767	.777	.785	.793	.800	.819	.843	.861	.875	.887	.896	.910	.922	.937	.962	1.013	
766.9	776.3	784.9	792.8	800.1	818.9	843.0	861.1	875.2	886.6	896.0	910.7	921.8	937.4	946.7	991.9	1000
.767	.776	.785	.793	.800	.819	.843	.861	.875	.887	.896	.913	.922	.936	.963	1.011	
843.6	853.9	863.4	872.1	880.1	900.8	927.3	947.2	962.7	975.3	985.6	1002.	1014.	1031.	1043.	1093.	1100
.7669	.7763	.7849	.7928	.8001	.8189	.8430	.8611	.8752	.8866	.8960	.9107	.9218	.9374	.9481		
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

k

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.282															
3	.450	.715														
4	.624	1.00	1.26													
5	.780	1.30	1.64	1.88												
6	.936	1.61	2.03	2.32	2.54											
7	1.09	1.92	2.43	2.78	3.05	3.25										
8	1.25	2.23	2.83	3.25	3.56	3.79	3.99									
9	1.40	2.54	3.24	3.73	4.08	4.35	4.57	4.75								
10	1.56	2.83	3.65	4.20	4.60	4.91	5.15	5.36	5.53							
11	1.72	3.11	4.07	4.69	5.13	5.48	5.75	5.97	6.16	6.33						
12	1.87	3.39	4.48	5.17	5.67	6.05	6.35	6.60	6.80	6.98	7.14					
13	2.03	3.67	4.90	5.66	6.21	6.63	6.96	7.23	7.45	7.65	7.82	7.97				
14	2.18	3.96	5.31	6.15	6.75	7.21	7.57	7.86	8.10	8.31	8.50	8.66	8.80			
15	2.34	4.24	5.73	6.64	7.30	7.79	8.18	8.50	8.76	8.98	9.18	9.35	9.51	9.65		
16	2.50	4.52	6.15	7.13	7.84	8.38	8.80	9.14	9.42	9.66	9.87	10.1	10.2	10.4	10.5	
17	2.65	4.80	6.53	7.63	8.39	8.97	9.42	9.78	10.1	10.3	10.6	10.8	10.9	11.1	11.2	11.4
18	2.81	5.09	6.91	8.12	8.94	9.56	10.0	10.4	10.7	11.0	11.3	11.5	11.7	11.8	12.0	12.1
19	2.96	5.37	7.30	8.62	9.49	10.2	10.7	11.1	11.4	11.7	12.0	12.2	12.4	12.6	12.7	12.9
20	3.12	5.65	7.68	9.11	10.0	10.7	11.3	11.7	12.1	12.4	12.7	12.9	13.1	13.3	13.5	13.6
21	3.28	5.93	8.07	9.60	10.6	11.3	11.9	12.4	12.8	13.1	13.4	13.6	13.8	14.0	14.2	14.4
22	3.43	6.22	8.45	10.1	11.2	11.9	12.6	13.0	13.4	13.8	14.1	14.3	14.6	14.8	14.9	15.1
23	3.59	6.50	8.83	10.6	11.7	12.5	13.2	13.7	14.1	14.5	14.8	15.1	15.3	15.5	15.7	15.9
24	3.74	6.78	9.22	11.1	12.3	13.1	13.8	14.4	14.8	15.2	15.5	15.8	16.0	16.3	16.4	16.6
25	3.90	7.06	9.60	11.6	12.8	13.7	14.5	15.0	15.5	15.9	16.2	16.5	16.8	17.0	17.2	17.4
26	4.06	7.35	9.99	12.0	13.4	14.3	15.1	15.7	16.2	16.6	16.9	17.2	17.5	17.7	18.0	18.2
27	4.21	7.63	10.4	12.5	13.9	14.9	15.7	16.3	16.9	17.3	17.7	18.0	18.2	18.5	18.7	18.9
28	4.37	7.91	10.8	13.0	14.5	15.5	16.4	17.0	17.5	18.0	18.4	18.7	19.0	19.3	19.5	19.7
29	4.52	8.19	11.1	13.4	15.0	16.1	17.0	17.7	18.2	18.7	19.1	19.4	19.7	20.0	20.2	20.5
30	4.68	8.48	11.5	13.9	15.6	16.7	17.6	18.3	18.9	19.4	19.8	20.2	20.5	20.8	21.0	21.2
31	4.84	8.76	11.9	14.4	16.1	17.3	18.3	19.0	19.6	20.1	20.5	20.9	21.2	21.5	21.8	22.0
32	4.99	9.04	12.3	14.8	16.7	17.9	18.9	19.7	20.3	20.8	21.3	21.6	22.0	22.3	22.5	22.8
33	5.15	9.32	12.7	15.3	17.2	18.5	19.6	20.3	21.0	21.5	22.0	22.4	22.7	23.0	23.3	23.6
34	5.30	9.61	13.1	15.7	17.8	19.1	20.2	21.0	21.7	22.2	22.7	23.1	23.5	23.8	24.1	24.3
35	5.46	9.89	13.4	16.2	18.3	19.8	20.8	21.7	22.4	23.0	23.4	23.9	24.2	24.6	24.9	25.1
36	5.62	10.2	13.8	16.7	18.9	20.4	21.5	22.4	23.1	23.7	24.2	24.6	25.0	25.3	25.6	25.9
37	5.77	10.5	14.2	17.1	19.4	21.0	22.1	23.0	23.8	24.4	24.9	25.4	25.8	26.1	26.4	26.7
38	5.93	10.7	14.6	17.6	19.9	21.6	22.8	23.7	24.5	25.1	25.6	26.1	26.5	26.9	27.2	27.5
39	6.08	11.0	15.0	18.1	20.5	22.2	23.4	24.4	25.2	25.8	26.4	26.8	27.3	27.6	28.0	28.3
40	6.24	11.3	15.4	18.5	21.0	22.8	24.0	25.0	25.9	26.5	27.1	27.6	28.0	28.4	28.7	29.0
41	6.40	11.6	15.7	19.0	21.5	23.4	24.7	25.7	26.6	27.2	27.8	28.3	28.8	29.2	29.5	29.8
42	6.55	11.9	16.1	19.4	22.0	24.0	25.3	26.4	27.2	28.0	28.6	29.1	29.5	29.9	30.3	30.6
43	6.71	12.1	16.5	19.9	22.6	24.6	25.9	27.1	27.9	28.7	29.3	29.8	30.3	30.7	31.1	31.4
44	6.86	12.4	16.9	20.4	23.1	25.1	26.6	27.7	28.6	29.4	30.0	30.6	31.1	31.5	31.9	32.2
45	7.02	12.7	17.3	20.8	23.6	25.7	27.2	28.4	29.3	30.1	30.8	31.3	31.8	32.3	32.6	33.0
46	7.18	13.0	17.7	21.3	24.1	26.3	27.9	29.1	30.0	30.8	31.5	32.1	32.6	33.0	33.4	33.8
47	7.33	13.3	18.1	21.8	24.7	26.9	28.5	29.7	30.7	31.6	32.2	32.8	33.4	33.8	34.2	34.6
48	7.49	13.6	18.4	22.2	25.2	27.5	29.1	30.4	31.4	32.3	33.0	33.6	34.1	34.6	35.0	35.4
49	7.64	13.8	18.8	22.7	25.7	28.1	29.8	31.1	32.1	33.0	33.7	34.3	34.9	35.4	35.8	36.1
50	7.80	14.1	19.2	23.2	26.2	28.7	30.4	31.8	32.8	33.7	34.5	35.1	35.6	36.1	36.6	36.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
1																.0309
2																.282
3																.715
4																1.26
5																1.88
6																2.54
7																3.25
8																3.99
9																4.75
10																5.53
11																6.33
12																7.14
13																7.97
14																8.80
15																9.65
16																10.5
17																11.4
18	12.2															12.2
19	13.0	13.1														13.1
20	13.7	13.9	14.0													14.0
21	14.5	14.6	14.8	14.9												14.9
22	15.3	15.4	15.5	15.7	15.8											15.8
23	16.0	16.2	16.3	16.4	16.6											16.7
24	16.8	17.0	17.1	17.2	17.4											17.6
25	17.6	17.7	17.9	18.0	18.1	18.5										18.5
26	18.3	18.5	18.7	18.8	18.9	19.3										19.4
27	19.1	19.3	19.4	19.6	19.7	20.1										20.3
28	19.9	20.1	20.2	20.4	20.5	20.9										21.2
29	20.7	20.8	21.0	21.2	21.3	21.7										22.1
30	21.4	21.6	21.8	22.0	22.1	22.5	23.1									23.1
31	22.2	22.4	22.6	22.8	22.9	23.3	23.9									24.0
32	23.0	23.2	23.4	23.6	23.7	24.1	24.7									24.9
33	23.8	24.0	24.2	24.4	24.5	25.0	25.6									25.8
34	24.6	24.8	25.0	25.2	25.3	25.8	26.4									26.8
35	25.4	25.6	25.8	26.0	26.1	26.6	27.2	27.7								27.7
36	26.1	26.4	26.6	26.8	27.0	27.4	28.1	28.6								28.6
37	26.9	27.2	27.4	27.6	27.8	28.2	28.9	29.4								29.6
38	27.7	28.0	28.2	28.4	28.6	29.1	29.7	30.3								30.5
39	28.5	28.8	29.0	29.2	29.4	29.9	30.6	31.1								31.5
40	29.3	29.6	29.8	30.0	30.2	30.7	31.4	32.0	32.4							32.4
41	30.1	30.4	30.6	30.8	31.0	31.5	32.3	32.8	33.3							33.4
42	30.9	31.2	31.4	31.6	31.8	32.4	33.1	33.7	34.1							34.3
43	31.7	32.0	32.2	32.4	32.7	33.2	33.9	34.5	35.0							35.3
44	32.5	32.8	33.0	33.3	33.5	34.0	34.8	35.4	35.9							36.2
45	33.3	33.6	33.8	34.1	34.3	34.9	35.6	36.2	36.7	37.2						37.2
46	34.1	34.4	34.6	34.9	35.1	35.7	36.5	37.1	37.6	38.0						38.1
47	34.9	35.2	35.5	35.7	35.9	36.5	37.3	38.0	38.5	38.9						39.1
48	35.7	36.0	36.3	36.5	36.8	37.4	38.2	38.8	39.3	39.8						40.0
49	36.5	36.8	37.1	37.3	37.6	38.2	39.0	39.7	40.2	40.7						41.0
50	37.3	37.6	37.9	38.2	38.4	39.0	39.9	40.5	41.1	41.5	41.9					41.9
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	7.80	14.1	19.2	23.2	26.2	28.7	30.4	31.8	32.8	33.7	34.5	35.1	35.6	36.1	36.6	36.9
51	7.96	14.4	19.6	23.6	26.8	29.3	31.1	32.4	33.5	34.4	35.2	35.8	36.4	36.9	37.3	37.7
52	8.11	14.7	20.0	24.1	27.3	29.9	31.7	33.1	34.2	35.2	35.9	36.6	37.2	37.7	38.1	38.5
53	8.27	15.0	20.4	24.5	27.8	30.4	32.3	33.8	34.9	35.9	36.7	37.4	37.9	38.5	38.9	39.3
54	8.42	15.3	20.7	25.0	28.3	31.0	33.0	34.4	35.6	36.6	37.4	38.1	38.7	39.2	39.7	40.1
55	8.58	15.5	21.1	25.5	28.9	31.6	33.6	35.1	36.3	37.3	38.2	38.9	39.5	40.0	40.5	40.9
56	8.74	15.8	21.5	25.9	29.4	32.2	34.2	35.8	37.0	38.0	38.9	39.6	40.2	40.8	41.3	41.7
57	8.89	16.1	21.9	26.4	29.9	32.7	34.9	36.4	37.7	38.8	39.6	40.4	41.0	41.6	42.1	42.5
58	9.05	16.4	22.3	26.9	30.4	33.3	35.5	37.1	38.4	39.5	40.4	41.1	41.8	42.4	42.9	43.3
59	9.20	16.7	22.7	27.3	31.0	33.9	36.1	37.8	39.1	40.2	41.1	41.9	42.6	43.1	43.7	44.1
60	9.36	17.0	23.0	27.8	31.5	34.4	36.8	38.5	39.8	40.9	41.8	42.6	43.3	43.9	44.4	44.9
61	9.52	17.2	23.4	28.2	32.0	35.0	37.4	39.1	40.5	41.6	42.6	43.4	44.1	44.7	45.2	45.7
62	9.67	17.5	23.8	28.7	32.5	35.6	38.0	39.8	41.2	42.4	43.3	44.1	44.9	45.5	46.0	46.5
63	9.83	17.8	24.2	29.2	33.1	36.2	38.7	40.5	41.9	43.1	44.1	44.9	45.6	46.3	46.8	47.3
64	9.98	18.1	24.6	29.6	33.6	36.7	39.3	41.1	42.6	43.8	44.8	45.7	46.4	47.0	47.6	48.1
65	10.1	18.4	25.0	30.1	34.1	37.3	39.9	41.8	43.3	44.5	45.5	46.4	47.2	47.8	48.4	48.9
66	10.3	18.6	25.4	30.6	34.6	37.9	40.5	42.5	44.0	45.2	46.3	47.2	47.9	48.6	49.2	49.7
67	10.5	18.9	25.7	31.0	35.2	38.5	41.1	43.1	44.7	46.0	47.0	47.9	48.7	49.4	50.0	50.5
68	10.6	19.2	26.1	31.5	35.7	39.0	41.8	43.8	45.4	46.7	47.8	48.7	49.5	50.2	50.8	51.3
69	10.8	19.5	26.5	32.0	36.2	39.6	42.4	44.5	46.1	47.4	48.5	49.4	50.2	51.0	51.6	52.1
70	10.9	19.8	26.9	32.4	36.7	40.2	43.0	45.1	46.8	48.1	49.2	50.2	51.0	51.7	52.4	52.9
71	11.1	20.1	27.3	32.9	37.3	40.8	43.6	45.8	47.5	48.8	50.0	51.0	51.8	52.5	53.2	53.7
72	11.2	20.3	27.7	33.3	37.8	41.3	44.2	46.4	48.2	49.6	50.7	51.7	52.6	53.3	53.9	54.5
73	11.4	20.6	28.0	33.8	38.3	41.9	44.8	47.1	48.8	50.3	51.5	52.5	53.3	54.1	54.7	55.3
74	11.5	20.9	28.4	34.3	38.8	42.5	45.4	47.8	49.5	51.0	52.2	53.2	54.1	54.9	55.5	56.1
75	11.7	21.2	28.8	34.7	39.4	43.1	46.1	48.4	50.2	51.7	52.9	54.0	54.9	55.6	56.3	56.9
76	11.9	21.5	29.2	35.2	39.9	43.6	46.7	49.1	50.9	52.4	53.7	54.7	55.6	56.4	57.1	57.7
77	12.0	21.8	29.6	35.7	40.4	44.2	47.3	49.8	51.6	53.1	54.4	55.5	56.4	57.2	57.9	58.5
78	12.2	22.0	30.0	36.1	40.9	44.8	47.9	50.4	52.3	53.9	55.2	56.2	57.2	58.0	58.7	59.3
79	12.3	22.3	30.3	36.6	41.5	45.4	48.5	51.1	53.0	54.6	55.9	57.0	58.0	58.8	59.5	60.2
80	12.5	22.6	30.7	37.0	42.0	45.9	49.1	51.7	53.7	55.3	56.6	57.8	58.7	59.6	60.3	61.0
81	12.6	22.9	31.1	37.5	42.5	46.5	49.7	52.4	54.4	56.0	57.4	58.5	59.5	60.4	61.1	61.8
82	12.8	23.2	31.5	38.0	43.0	47.1	50.4	53.1	55.1	56.7	58.1	59.3	60.3	61.1	61.9	62.6
83	12.9	23.4	31.9	38.4	43.6	47.7	51.0	53.7	55.8	57.4	58.8	60.0	61.0	61.9	62.7	63.4
84	13.1	23.7	32.3	38.9	44.1	48.2	51.6	54.3	56.5	58.2	59.6	60.8	61.8	62.7	63.5	64.2
85	13.3	24.0	32.6	39.4	44.6	48.8	52.2	55.0	57.2	58.9	60.3	61.5	62.6	63.5	64.3	65.0
86	13.4	24.3	33.0	39.8	45.1	49.4	52.8	55.6	57.8	59.6	61.1	62.3	63.4	64.3	65.1	65.8
87	13.6	24.6	33.4	40.3	45.7	50.0	53.4	56.3	58.5	60.3	61.8	63.0	64.1	65.1	65.9	66.6
88	13.7	24.9	33.8	40.8	46.2	50.5	54.0	56.9	59.2	61.0	62.5	63.8	64.9	65.8	66.7	67.4
89	13.9	25.1	34.2	41.2	46.7	51.1	54.7	57.6	59.9	61.7	63.3	64.6	65.7	66.6	67.5	68.2
90	14.0	25.4	34.6	41.7	47.2	51.7	55.3	58.2	60.6	62.5	64.0	65.3	66.4	67.4	68.3	69.0
91	14.2	25.7	35.0	42.1	47.8	52.2	55.9	58.9	61.3	63.2	64.7	66.1	67.2	68.2	69.1	69.8
92	14.4	26.0	35.3	42.6	48.3	52.8	56.5	59.5	62.0	63.9	65.5	66.8	68.0	69.0	69.8	70.6
93	14.5	26.3	35.7	43.1	48.8	53.4	57.1	60.2	62.7	64.6	66.2	67.6	68.7	69.8	70.6	71.4
94	14.7	26.6	36.1	43.5	49.3	54.0	57.7	60.8	63.3	65.3	66.9	68.3	69.5	70.5	71.4	72.2
95	14.8	26.8	36.5	44.0	49.9	54.5	58.3	61.5	64.0	66.0	67.7	69.1	70.3	71.3	72.2	73.0
96	15.0	27.1	36.9	44.5	50.4	55.1	59.0	62.1	64.7	66.7	68.4	69.8	71.1	72.1	73.0	73.8
97	15.1	27.4	37.3	44.9	50.9	55.7	59.6	62.8	65.4	67.4	69.2	70.6	71.8	72.9	73.8	74.6
98	15.3	27.7	37.6	45.4	51.4	56.3	60.2	63.4	66.1	68.2	69.9	71.3	72.6	73.7	74.6	75.5
99	15.4	28.0	38.0	45.8	52.0	56.8	60.8	64.1	66.8	68.9	70.6	72.1	73.4	74.5	75.4	76.3
100	15.6	28.3	38.4	46.3	52.5	57.4	61.4	64.7	67.5	69.6	71.4	72.9	74.1	75.2	76.2	77.1
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
50	37.3	37.6	37.9	38.2	38.4	39.0	39.9	40.5	41.1	41.5	41.9					41.9
51	38.1	38.4	38.7	39.0	39.2	39.9	40.7	41.4	41.9	42.4	42.8					42.9
52	38.9	39.2	39.5	39.8	40.0	40.7	41.6	42.3	42.8	43.3	43.7					43.9
53	39.7	40.0	40.3	40.6	40.9	41.5	42.4	43.1	43.7	44.2	44.6					44.8
54	40.5	40.8	41.1	41.4	41.7	42.4	43.3	44.0	44.6	45.1	45.5					45.8
55	41.3	41.6	42.0	42.3	42.5	43.2	44.1	44.9	45.4	45.9	46.4					46.7
56	42.1	42.5	42.8	43.1	43.4	44.1	45.0	45.7	46.3	46.8	47.3					47.7
57	42.9	43.3	43.6	43.9	44.2	44.9	45.9	46.6	47.2	47.7	48.1					48.7
58	43.7	44.1	44.4	44.7	45.0	45.7	46.7	47.5	48.1	48.6	49.0					49.6
59	44.5	44.9	45.2	45.6	45.8	46.6	47.6	48.3	48.9	49.5	49.9					50.6
60	45.3	45.7	46.1	46.4	46.7	47.4	48.4	49.2	49.8	50.4	50.8	51.6				51.6
61	46.1	46.5	46.9	47.2	47.5	48.3	49.3	50.1	50.7	51.2	51.7	52.5				52.5
62	46.9	47.3	47.7	48.0	48.3	49.1	50.1	50.9	51.6	52.1	52.6	53.4				53.5
63	47.8	48.2	48.5	48.9	49.2	50.0	51.0	51.8	52.5	53.0	53.5	54.3				54.5
64	48.6	49.0	49.3	49.7	50.0	50.8	51.9	52.7	53.3	53.9	54.4	55.2				55.4
65	49.4	49.8	50.2	50.5	50.8	51.7	52.7	53.6	54.2	54.8	55.3	56.1				56.4
66	50.2	50.6	51.0	51.3	51.7	52.5	53.6	54.4	55.1	55.7	56.2	57.0				57.4
67	51.0	51.4	51.8	52.2	52.5	53.3	54.4	55.3	56.0	56.6	57.1	57.9				58.4
68	51.8	52.2	52.6	53.0	53.3	54.2	55.3	56.2	56.9	57.5	58.0	58.8				59.3
69	52.6	53.1	53.5	53.8	54.2	55.0	56.2	57.0	57.8	58.3	58.9	59.7				60.3
70	53.4	53.9	54.3	54.7	55.0	55.9	57.0	57.9	58.6	59.2	59.7	60.6	61.3			61.3
71	54.2	54.7	55.1	55.5	55.8	56.7	57.9	58.8	59.5	60.1	60.6	61.5	62.2			62.3
72	55.0	55.5	55.9	56.3	56.7	57.6	58.8	59.7	60.4	61.0	61.5	62.4	63.1			63.2
73	55.9	56.3	56.8	57.1	57.5	58.4	59.6	60.6	61.3	61.9	62.4	63.3	64.0			64.2
74	56.7	57.1	57.6	58.0	58.3	59.3	60.5	61.4	62.2	62.8	63.3	64.2	64.9			65.2
75	57.5	58.0	58.4	58.8	59.2	60.1	61.4	62.3	63.1	63.7	64.2	65.1	65.9			66.2
76	58.3	58.8	59.2	59.6	60.0	61.0	62.2	63.2	63.9	64.6	65.1	66.0	66.8			67.2
77	59.1	59.6	60.1	60.5	60.9	61.8	63.1	64.1	64.8	65.5	66.0	67.0	67.7			68.1
78	59.9	60.4	60.9	61.3	61.7	62.7	64.0	64.9	65.7	66.4	66.9	67.9	68.6			69.1
79	60.7	61.2	61.7	62.1	62.5	63.5	64.8	65.8	66.6	67.3	67.8	68.8	69.5			70.1
80	61.5	62.1	62.5	63.0	63.4	64.4	65.7	66.7	67.5	68.2	68.7	69.7	70.4			71.1
81	62.4	62.9	63.4	63.8	64.2	65.2	66.6	67.6	68.4	69.1	69.6	70.6	71.4			72.1
82	63.2	63.7	64.2	64.6	65.0	66.1	67.4	68.5	69.3	70.0	70.5	71.5	72.3			73.0
83	64.0	64.5	65.0	65.5	65.9	67.0	68.3	69.3	70.2	70.9	71.4	72.4	73.2			74.0
84	64.8	65.3	65.8	66.3	66.7	67.8	69.2	70.2	71.1	71.8	72.3	73.3	74.1			75.0
85	65.6	66.2	66.7	67.1	67.6	68.7	70.0	71.1	71.9	72.7	73.3	74.2	75.0			76.0
86	66.4	67.0	67.5	68.0	68.4	69.5	70.9	72.0	72.8	73.5	74.2	75.1	76.0			77.0
87	67.2	67.8	68.3	68.8	69.2	70.4	71.8	72.9	73.7	74.4	75.1	76.1	76.9			78.0
88	68.0	68.6	69.2	69.6	70.1	71.2	72.7	73.7	74.6	75.3	76.0	77.0	77.8			78.9
89	68.9	69.5	70.0	70.5	70.9	72.1	73.5	74.6	75.5	76.2	76.9	77.9	78.7			79.9
90	69.7	70.3	70.8	71.3	71.8	72.9	74.4	75.5	76.4	77.1	77.8	78.8	79.6	80.9		80.9
91	70.5	71.1	71.7	72.2	72.6	73.8	75.3	76.4	77.3	78.0	78.7	79.7	80.6	81.8		81.9
92	71.3	71.9	72.5	73.0	73.5	74.6	76.1	77.3	78.2	78.9	79.6	80.6	81.5	82.8		82.9
93	72.1	72.7	73.3	73.8	74.3	75.5	77.0	78.2	79.1	79.8	80.5	81.5	82.4	83.7		83.9
94	72.9	73.6	74.1	74.7	75.1	76.4	77.9	79.1	80.0	80.7	81.4	82.5	83.3	84.6		84.9
95	73.8	74.4	75.0	75.5	76.0	77.2	78.8	79.9	80.9	81.6	82.3	83.4	84.2	85.6		85.8
96	74.6	75.2	75.8	76.3	76.8	78.1	79.6	80.8	81.8	82.5	83.2	84.3	85.2	86.5		86.8
97	75.4	76.0	76.6	77.2	77.7	78.9	80.5	81.7	82.7	83.4	84.1	85.2	86.1	87.4		87.8
98	76.2	76.9	77.5	78.0	78.5	79.8	81.4	82.6	83.6	84.3	85.0	86.1	87.0	88.4		88.8
99	77.0	77.7	78.3	78.8	79.3	80.6	82.3	83.5	84.4	85.2	85.9	87.0	87.9	89.3		89.8
100	77.8	78.5	79.1	79.7	80.2	81.5	83.1	84.4	85.3	86.2	86.8	88.0	88.9	90.2		90.8
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	15.6	28.3	38.4	46.3	52.5	57.4	61.4	64.7	67.5	69.6	71.4	72.9	74.1	75.2	76.2	77.1
102	15.9	28.8	39.2	47.2	53.5	58.6	62.6	66.0	68.8	71.0	72.8	74.4	75.7	76.8	77.8	78.7
104	16.2	29.4	39.9	48.2	54.6	59.7	63.9	67.3	70.2	72.4	74.3	75.9	77.2	78.4	79.4	80.3
106	16.5	29.9	40.7	49.1	55.6	60.9	65.1	68.6	71.5	73.8	75.8	77.4	78.8	79.9	81.0	81.9
108	16.8	30.5	41.5	50.0	56.7	62.0	66.3	69.9	72.8	75.3	77.2	78.9	80.3	81.5	82.6	83.5
110	17.2	31.1	42.3	50.9	57.7	63.2	67.6	71.2	74.2	76.7	78.7	80.4	81.8	83.1	84.2	85.1
112	17.5	31.6	43.0	51.9	58.8	64.3	68.8	72.5	75.5	78.1	80.1	81.9	83.4	84.6	85.8	86.7
114	17.8	32.2	43.8	52.8	59.8	65.5	70.0	73.8	76.9	79.5	81.6	83.4	84.9	86.2	87.3	88.4
116	18.1	32.8	44.6	53.7	60.9	66.6	71.2	75.1	78.2	80.9	83.1	84.9	86.4	87.8	88.9	90.0
118	18.4	33.3	45.3	54.6	61.9	67.8	72.5	76.3	79.6	82.3	84.5	86.4	88.0	89.3	90.5	91.6
120	18.7	33.9	46.1	55.6	63.0	68.9	73.7	77.6	80.9	83.6	86.0	87.9	89.5	90.9	92.1	93.2
122	19.0	34.5	46.9	56.5	64.0	70.0	74.9	78.9	82.3	85.0	87.4	89.4	91.0	92.5	93.7	94.8
124	19.3	35.0	47.6	57.4	65.1	71.2	76.1	80.2	83.6	86.4	88.8	90.9	92.6	94.0	95.3	96.4
126	19.7	35.6	48.4	58.3	66.1	72.3	77.4	81.5	85.0	87.8	90.3	92.4	94.1	95.6	96.9	98.0
128	20.0	36.2	49.2	59.3	67.2	73.5	78.6	82.8	86.3	89.2	91.7	93.9	95.6	97.1	98.5	99.6
130	20.3	36.7	49.9	60.2	68.2	74.6	79.8	84.1	87.7	90.6	93.1	95.4	97.2	98.7	100.1	101.2
132	20.6	37.3	50.7	61.1	69.3	75.8	81.1	85.4	89.0	92.0	94.6	96.8	98.7	100.3	101.6	102.8
134	20.9	37.9	51.5	62.1	70.3	76.9	82.3	86.7	90.4	93.4	96.0	98.3	100.2	101.8	103.2	104.5
136	21.2	38.4	52.2	63.0	71.4	78.1	83.5	88.0	91.7	94.8	97.4	99.8	101.7	103.4	104.8	106.1
138	21.5	39.0	53.0	63.9	72.4	79.2	84.7	89.3	93.1	96.2	98.9	101.2	103.3	104.9	106.4	107.7
140	21.8	39.6	53.8	64.8	73.5	80.4	86.0	90.6	94.4	97.6	100.3	102.7	104.8	106.5	108.0	109.3
142	22.2	40.1	54.5	65.8	74.5	81.5	87.2	91.9	95.8	99.0	101.7	104.2	106.3	108.0	109.6	110.9
144	22.5	40.7	55.3	66.7	75.6	82.7	88.4	93.2	97.1	100.4	103.2	105.6	107.8	109.6	111.1	112.5
146	22.8	41.2	56.1	67.6	76.6	83.8	89.7	94.5	98.5	101.8	104.6	107.1	109.3	111.2	112.7	114.1
148	23.1	41.8	56.8	68.5	77.7	85.0	90.9	95.8	99.8	103.2	106.0	108.6	110.8	112.7	114.3	115.7
150	23.4	42.4	57.6	69.5	78.7	86.1	92.1	97.1	101.2	104.6	107.5	110.0	112.3	114.3	115.9	117.3
152	23.7	42.9	58.4	70.4	79.8	87.3	93.3	98.3	102.5	106.0	108.9	111.5	113.8	115.8	117.5	118.9
154	24.0	43.5	59.2	71.3	80.8	88.4	94.6	99.6	103.9	107.3	110.3	113.0	115.3	117.3	119.0	120.5
156	24.3	44.1	59.9	72.2	81.9	89.6	95.8	100.9	105.2	108.7	111.8	114.4	116.8	118.8	120.6	122.1
158	24.6	44.6	60.7	73.2	82.9	90.7	97.0	102.2	106.6	110.1	113.2	115.9	118.3	120.4	122.2	123.7
160	25.0	45.2	61.5	74.1	84.0	91.9	98.3	103.5	107.9	111.5	114.6	117.4	119.8	121.9	123.8	125.3
162	25.3	45.8	62.2	75.0	85.0	93.0	99.5	104.8	109.3	112.9	116.1	118.8	121.3	123.4	125.3	126.9
164	25.6	46.3	63.0	75.9	86.1	94.2	100.7	106.1	110.6	114.3	117.5	120.3	122.7	124.9	126.9	128.5
166	25.9	46.9	63.8	76.9	87.1	95.3	101.9	107.4	112.0	115.7	118.9	121.8	124.2	126.4	128.4	130.1
168	26.2	47.5	64.5	77.8	88.2	96.5	103.2	108.7	113.3	117.1	120.4	123.2	125.7	128.0	130.0	131.7
170	26.5	48.0	65.3	78.7	89.2	97.6	104.4	110.0	114.7	118.5	121.8	124.7	127.2	129.5	131.5	133.3
172	26.8	48.6	66.1	79.6	90.3	98.8	105.6	111.3	116.0	119.9	123.2	126.2	128.7	131.0	133.1	134.9
174	27.1	49.2	66.8	80.6	91.3	99.9	106.9	112.6	117.4	121.3	124.7	127.6	130.2	132.5	134.6	136.5
176	27.5	49.7	67.6	81.5	92.4	101.1	108.1	113.9	118.7	122.7	126.1	129.1	131.7	134.1	136.2	138.0
178	27.8	50.3	68.4	82.4	93.4	102.2	109.3	115.2	120.1	124.1	127.5	130.6	133.2	135.6	137.7	139.6
180	28.1	50.9	69.1	83.4	94.5	103.3	110.5	116.5	121.4	125.5	129.0	132.0	134.7	137.1	139.3	141.2
182	28.4	51.4	69.9	84.3	95.5	104.5	111.8	117.8	122.8	126.9	130.4	133.5	136.2	138.6	140.8	142.7
184	28.7	52.0	70.7	85.2	96.6	105.6	113.0	119.0	124.1	128.3	131.8	135.0	137.7	140.2	142.3	144.3
186	29.0	52.5	71.4	86.1	97.6	106.8	114.2	120.3	125.5	129.7	133.3	136.4	139.2	141.7	143.9	145.9
188	29.3	53.1	72.2	87.1	98.7	107.9	115.5	121.6	126.8	131.0	134.7	137.9	140.7	143.2	145.4	147.5
190	29.6	53.7	73.0	88.0	99.7	109.1	116.7	122.9	128.2	132.4	136.1	139.4	142.2	144.7	147.0	149.0
192	30.0	54.2	73.8	88.9	100.8	110.2	117.9	124.2	129.5	133.8	137.6	140.8	143.7	146.3	148.5	150.6
194	30.3	54.8	74.5	89.8	101.8	111.4	119.1	125.5	130.9	135.2	139.0	142.3	145.2	147.8	150.1	152.2
196	30.6	55.4	75.3	90.8	102.9	112.5	120.4	126.8	132.2	136.6	140.4	143.8	146.7	149.3	151.6	153.7
198	30.9	55.9	76.1	91.7	103.9	113.7	121.6	128.1	133.6	138.0	141.9	145.2	148.2	150.8	153.2	155.3
200	31.2	56.5	76.8	92.6	105.0	114.8	122.8	129.4	134.9	139.4	143.3	146.7	149.7	152.3	154.7	156.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																	
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
100	77.8	78.5	79.1	79.7	80.2	81.5	83.1	84.4	85.3	86.2	86.8	88.0	88.9	90.2		90.8	100
102	79.5	80.2	80.8	81.4	81.9	83.2	84.9	86.1	87.1	88.0	88.7	89.8	90.7	92.1		92.8	102
104	81.1	81.8	82.4	83.0	83.6	84.9	86.6	87.9	88.9	89.8	90.5	91.6	92.6	94.0		94.8	104
106	82.7	83.4	84.1	84.7	85.3	86.6	88.4	89.7	90.7	91.6	92.3	93.5	94.4	95.8		96.7	106
108	84.4	85.1	85.8	86.4	86.9	88.4	90.1	91.5	92.5	93.4	94.1	95.3	96.3	97.7		98.7	108
110	86.0	86.7	87.4	88.1	88.6	90.1	91.9	93.2	94.3	95.2	95.9	97.1	98.1	99.6	100.7	100.7	110
112	87.6	88.4	89.1	89.7	90.3	91.8	93.6	95.0	96.1	97.0	97.8	99.0	100.0	101.5	102.6	102.7	112
114	89.2	90.0	90.8	91.4	92.0	93.5	95.4	96.8	97.9	98.8	99.6	100.8	101.8	103.3	104.5	104.7	114
116	90.9	91.7	92.4	93.1	93.7	95.2	97.2	98.6	99.7	100.6	101.4	102.7	103.7	105.2	106.4	106.7	116
118	92.5	93.3	94.1	94.8	95.4	97.0	98.9	100.4	101.5	102.4	103.2	104.5	105.5	107.1	108.3	108.7	118
120	94.1	95.0	95.8	96.4	97.1	98.7	100.7	102.1	103.3	104.3	105.1	106.4	107.4	109.0	110.1	110.7	120
122	95.8	96.6	97.4	98.1	98.8	100.4	102.4	103.9	105.1	106.1	106.9	108.2	109.2	110.8	112.0	112.6	122
124	97.4	98.3	99.1	99.8	100.5	102.1	104.2	105.7	106.9	107.9	108.7	110.0	111.1	112.7	113.9	114.6	124
126	99.0	99.9	100.7	101.5	102.1	103.8	105.9	107.5	108.7	109.7	110.5	111.9	113.0	114.6	115.8	116.6	126
128	100.7	101.6	102.4	103.2	103.8	105.6	107.7	109.3	110.5	111.5	112.4	113.7	114.8	116.5	117.7	118.6	128
130	102.3	103.2	104.1	104.8	105.5	107.3	109.5	111.1	112.3	113.3	114.2	115.6	116.7	118.4	119.6	120.6	130
132	103.9	104.9	105.7	106.5	107.2	109.0	111.2	112.9	114.1	115.2	116.0	117.4	118.5	120.2	121.5	122.6	132
134	105.6	106.5	107.4	108.2	108.9	110.7	113.0	114.6	115.9	117.0	117.9	119.3	120.4	122.1	123.4	124.6	134
136	107.2	108.2	109.1	109.9	110.6	112.5	114.7	116.4	117.7	118.8	119.7	121.1	122.3	124.0	125.3	126.6	136
138	108.8	109.8	110.7	111.5	112.3	114.2	116.5	118.2	119.5	120.6	121.5	123.0	124.1	125.9	127.2	128.6	138
140	110.4	111.5	112.4	113.2	114.0	115.9	118.3	120.0	121.4	122.5	123.4	124.8	126.0	127.8	129.1	130.6	140
142	112.1	113.1	114.1	114.9	115.7	117.6	120.0	121.8	123.2	124.3	125.2	126.7	127.9	129.7	131.0	132.6	142
144	113.7	114.8	115.7	116.6	117.4	119.3	121.8	123.6	125.0	126.1	127.0	128.6	129.7	131.5	132.9	134.6	144
146	115.3	116.4	117.4	118.3	119.1	121.1	123.6	125.4	126.8	127.9	128.9	130.4	131.6	133.4	134.8	136.6	146
148	116.9	118.1	119.0	119.9	120.8	122.8	125.3	127.2	128.6	129.7	130.7	132.3	133.5	135.3	136.7	138.6	148
150	118.6	119.7	120.7	121.6	122.4	124.5	127.1	129.0	130.4	131.6	132.6	134.1	135.3	137.2	138.6	140.6	150
152	120.2	121.3	122.4	123.3	124.1	126.2	128.8	130.7	132.2	133.4	134.4	136.0	137.2	139.1	140.5	142.6	152
154	121.8	123.0	124.0	125.0	125.8	128.0	130.6	132.5	134.0	135.2	136.2	137.8	139.1	141.0	142.4	144.6	154
156	123.5	124.6	125.7	126.7	127.5	129.7	132.4	134.3	135.8	137.1	138.1	139.7	141.0	142.9	144.3	146.6	156
158	125.1	126.3	127.4	128.3	129.2	131.4	134.1	136.1	137.6	138.9	139.9	141.5	142.8	144.8	146.2	148.6	158
160	126.7	127.9	129.0	130.0	130.9	133.1	135.9	137.9	139.5	140.7	141.7	143.4	144.7	146.6	148.1	150.6	160
162	128.3	129.6	130.7	131.7	132.6	134.9	137.7	139.7	141.3	142.5	143.6	145.3	146.6	148.5	150.0	152.7	162
164	130.0	131.2	132.3	133.4	134.3	136.6	139.4	141.5	143.1	144.4	145.4	147.1	148.4	150.4	151.9	154.7	164
166	131.6	132.9	134.0	135.0	136.0	138.3	141.2	143.3	144.9	146.2	147.3	149.0	150.3	152.3	153.8	156.7	166
168	133.2	134.5	135.7	136.7	137.7	140.1	143.0	145.1	146.7	148.0	149.1	150.8	152.2	154.2	155.7	158.7	168
170	134.8	136.1	137.3	138.4	139.4	141.8	144.7	146.9	148.5	149.9	151.0	152.7	154.1	156.1	157.6	160.7	170
172	136.4	137.8	139.0	140.1	141.0	143.5	146.5	148.7	150.4	151.7	152.8	154.6	155.9	158.0	159.5	162.7	172
174	138.1	139.4	140.6	141.7	142.7	145.2	148.3	150.5	152.2	153.5	154.6	156.4	157.8	159.9	161.4	164.7	174
176	139.7	141.1	142.3	143.4	144.4	147.0	150.0	152.3	154.0	155.4	156.5	158.3	159.7	161.8	163.3	166.7	176
178	141.3	142.7	144.0	145.1	146.1	148.7	151.8	154.1	155.8	157.2	158.3	160.2	161.6	163.7	165.3	168.7	178
180	142.9	144.3	145.6	146.8	147.8	150.4	153.6	155.9	157.6	159.0	160.2	162.0	163.4	165.6	167.2	170.7	180
182	144.5	146.0	147.3	148.4	149.5	152.1	155.3	157.7	159.4	160.9	162.0	163.9	165.3	167.5	169.1	172.8	182
184	146.1	147.6	148.9	150.1	151.2	153.9	157.1	159.5	161.3	162.7	163.9	165.8	167.2	169.4	171.0	174.8	184
186	147.7	149.3	150.6	151.8	152.9	155.6	158.9	161.3	163.1	164.5	165.7	167.6	169.1	171.3	172.9	176.8	186
188	149.3	150.9	152.3	153.5	154.6	157.3	160.7	163.1	164.9	166.4	167.6	169.5	171.0	173.2	174.8	178.8	188
190	150.9	152.5	153.9	155.1	156.3	159.0	162.4	164.9	166.7	168.2	169.4	171.4	172.8	175.1	176.7	180.8	190
192	152.5	154.1	155.6	156.8	157.9	160.8	164.2	166.7	168.5	170.0	171.3	173.2	174.7	177.0	178.6	182.8	192
194	154.0	155.8	157.2	158.5	159.6	162.5	166.0	168.4	170.3	171.9	173.1	175.1	176.6	178.9	180.5	184.8	194
196	155.6	157.4	158.9	160.2	161.3	164.2	167.7	170.2	172.2	173.7	175.0	177.0	178.5	180.8	182.5	186.9	196
198	157.2	159.0	160.5	161.8	163.0	165.9	169.5	172.0	174.0	175.5	176.8	178.8	180.4	182.7	184.4	188.9	198
200	158.8	160.6	162.2	163.5	164.7	167.7	171.3	173.8	175.8	177.4	178.7	180.7	182.3	184.6	186.3	190.9	200
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
	k																N

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	31.2	56.5	76.8	92.6	105.0	114.8	122.8	129.4	134.9	139.4	143.3	146.7	149.7	152.3	154.7	156.9
202	31.5	57.1	77.6	93.5	106.0	116.0	124.0	130.7	136.3	140.8	144.7	148.2	151.2	153.9	156.3	158.4
204	31.8	57.6	78.4	94.5	107.1	117.1	125.3	132.0	137.6	142.2	146.2	149.6	152.7	155.4	157.8	160.0
206	32.1	58.2	79.1	95.4	108.1	118.3	126.5	133.3	139.0	143.6	147.6	151.1	154.2	156.9	159.4	161.6
208	32.4	58.8	79.9	96.3	109.2	119.4	127.7	134.6	140.3	145.0	149.0	152.6	155.7	158.4	160.9	163.1
210	32.8	59.3	80.7	97.2	110.2	120.6	129.0	135.9	141.7	146.4	150.5	154.0	157.2	160.0	162.5	164.7
212	33.1	59.9	81.4	98.2	111.3	121.7	130.2	137.2	143.0	147.8	151.9	155.5	158.7	161.5	164.0	166.3
214	33.4	60.5	82.2	99.1	112.3	122.9	131.4	138.5	144.4	149.2	153.3	157.0	160.2	163.0	165.6	167.8
216	33.7	61.0	83.0	100.0	113.4	124.0	132.6	139.8	145.7	150.6	154.8	158.4	161.7	164.5	167.1	169.4
218	34.0	61.6	83.7	100.9	114.4	125.2	133.9	141.0	147.0	152.0	156.2	159.9	163.2	166.1	168.7	171.0
220	34.3	62.2	84.5	101.9	115.5	126.3	135.1	142.3	148.4	153.4	157.6	161.4	164.7	167.6	170.2	172.6
222	34.6	62.7	85.3	102.8	116.5	127.5	136.3	143.6	149.7	154.7	159.1	162.8	166.2	169.1	171.7	174.1
224	34.9	63.3	86.0	103.7	117.6	128.6	137.6	144.9	151.1	156.1	160.5	164.3	167.7	170.6	173.3	175.7
226	35.3	63.8	86.8	104.7	118.6	129.8	138.8	146.2	152.4	157.5	161.9	165.8	169.2	172.2	174.8	177.3
228	35.6	64.4	87.6	105.6	119.7	130.9	140.0	147.5	153.8	158.9	163.4	167.2	170.6	173.7	176.4	178.8
230	35.9	65.0	88.3	106.5	120.7	132.1	141.2	148.8	155.1	160.3	164.8	168.7	172.1	175.2	177.9	180.4
232	36.2	65.5	89.1	107.4	121.8	133.2	142.5	150.1	156.5	161.7	166.2	170.2	173.6	176.7	179.5	182.0
234	36.5	66.1	89.9	108.4	122.8	134.4	143.7	151.4	157.8	163.1	167.7	171.6	175.1	178.2	181.0	183.5
236	36.8	66.7	90.7	109.3	123.9	135.5	144.9	152.7	159.2	164.5	169.1	173.1	176.6	179.8	182.6	185.1
238	37.1	67.2	91.4	110.2	124.9	136.7	146.2	154.0	160.5	165.9	170.5	174.6	178.1	181.3	184.1	186.7
240	37.4	67.8	92.2	111.1	126.0	137.8	147.4	155.3	161.9	167.3	172.0	176.0	179.6	182.8	185.7	188.2
242	37.8	68.4	93.0	112.1	127.0	138.9	148.6	156.6	163.2	168.7	173.4	177.5	181.1	184.3	187.2	189.8
244	38.1	68.9	93.7	113.0	128.1	140.1	149.8	157.9	164.6	170.1	174.8	179.0	182.6	185.9	188.8	191.4
246	38.4	69.5	94.5	113.9	129.1	141.2	151.1	159.2	165.9	171.5	176.3	180.4	184.1	187.4	190.3	192.9
248	38.7	70.1	95.3	114.8	130.2	142.4	152.3	160.5	167.3	172.9	177.7	181.9	185.6	188.9	191.9	194.5
250	39.0	70.6	96.0	115.8	131.2	143.5	153.5	161.8	168.6	174.3	179.1	183.4	187.1	190.4	193.4	196.1
	.156	*.284*	*.384*	*.462*	*.526*	*.574*	*.614*	*.646*	*.676*	*.696*	*.718*	*.734*	*.748*	*.762*	*.774*	*.784*
300	46.8	84.8	115.2	138.9	157.5	172.2	184.2	194.1	202.4	209.1	215.0	220.1	224.5	228.5	232.1	235.3
	.156	*.282*	*.384*	*.464*	*.524*	*.576*	*.614*	*.648*	*.674*	*.698*	*.716*	*.732*	*.750*	*.762*	*.774*	*.784*
350	54.6	98.9	134.4	162.1	183.7	201.0	214.9	226.5	236.1	244.0	250.8	256.7	262.0	266.6	270.8	274.5
	.156	*.282*	*.384*	*.462*	*.526*	*.574*	*.614*	*.646*	*.674*	*.696*	*.716*	*.734*	*.748*	*.762*	*.772*	*.784*
400	62.4	113.0	153.6	185.2	210.0	229.7	245.6	258.8	269.8	278.8	286.6	293.4	299.4	304.7	309.4	313.7
	.156	*.282*	*.386*	*.464*	*.524*	*.574*	*.614*	*.648*	*.674*	*.698*	*.716*	*.734*	*.748*	*.762*	*.774*	*.784*
450	70.2	127.1	172.9	208.4	236.2	258.4	276.3	291.2	303.5	313.7	322.4	330.1	336.8	342.8	348.1	352.9
	.156	*.284*	*.384*	*.462*	*.526*	*.574*	*.614*	*.646*	*.676*	*.696*	*.718*	*.734*	*.748*	*.762*	*.774*	*.786*
500	78.0	141.3	192.1	231.5	262.5	287.1	307.0	323.5	337.3	348.5	358.3	366.8	374.2	380.9	386.8	392.2
	.156	*.282*	*.384*	*.463*	*.524*	*.574*	*.615*	*.647*	*.674*	*.697*	*.716*	*.733*	*.749*	*.761*	*.774*	*.784*
600	93.6	169.5	230.5	277.8	314.9	344.5	368.5	388.2	404.7	418.2	429.9	440.1	449.1	457.0	464.2	470.6
	.156	*.283*	*.384*	*.463*	*.525*	*.574*	*.614*	*.647*	*.675*	*.697*	*.717*	*.734*	*.748*	*.762*	*.773*	*.784*
700	109.2	197.8	268.9	324.1	367.4	401.9	429.9	452.9	472.2	487.9	501.6	513.5	523.9	533.2	541.5	549.0
	.156	*.282*	*.384*	*.464*	*.525*	*.574*	*.614*	*.647*	*.674*	*.698*	*.716*	*.733*	*.749*	*.762*	*.774*	*.785*
800	124.8	226.0	307.3	370.5	419.9	459.3	491.3	517.6	539.6	557.7	573.2	586.8	598.8	609.4	618.9	627.5
	.156	*.283*	*.384*	*.463*	*.525*	*.574*	*.614*	*.647*	*.675*	*.697*	*.717*	*.734*	*.748*	*.762*	*.774*	*.784*
900	140.4	254.3	345.7	416.8	472.4	516.7	552.7	582.3	607.1	627.4	644.9	660.2	673.6	685.6	696.3	705.9
	.156	*.282*	*.384*	*.463*	*.525*	*.575*	*.614*	*.647*	*.674*	*.697*	*.716*	*.733*	*.749*	*.761*	*.773*	*.784*
1000	156.0	282.5	384.1	463.1	524.9	574.2	614.1	647.0	674.5	697.1	716.5	733.5	748.5	761.7	773.6	784.3
	.156	*.283*	*.384*	*.463*	*.525*	*.574*	*.614*	*.647*	*.675*	*.697*	*.717*	*.734*	*.748*	*.762*	*.774*	*.785*
1100	171.6	310.8	422.5	509.4	577.4	631.6	675.5	711.7	742.0	766.8	788.2	806.9	823.3	837.9	851.0	862.8
	.1560	*.2825*	*.3841*	*.4631*	*.5249*	*.5742*	*.6141*	*.6470*	*.6745*	*.6971*	*.7165*	*.7335*	*.7485*	*.7617*	*.7736*	*.7843*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
200	158.8	160.6	162.2	163.5	164.7	167.7	171.3	173.8	175.8	177.4	178.7	180.7	182.3	184.6	186.3	190.9
202	160.4	162.2	163.8	165.2	166.4	169.4	173.0	175.6	177.6	179.2	180.5	182.6	184.1	186.5	188.2	192.9
204	162.0	163.8	165.4	166.8	168.1	171.1	174.8	177.4	179.5	181.0	182.4	184.4	186.0	188.4	190.1	194.9
206	163.6	165.4	167.0	168.5	169.7	172.8	176.6	179.2	181.3	182.9	184.2	186.3	187.9	190.3	192.0	196.9
208	165.2	167.0	168.7	170.2	171.4	174.6	178.3	181.0	183.1	184.7	186.1	188.2	189.8	192.2	193.9	199.0
210	166.7	168.6	170.3	171.8	173.1	176.3	180.1	182.8	184.9	186.6	187.9	190.0	191.7	194.1	195.8	201.0
212	168.3	170.2	171.9	173.5	174.8	178.0	181.9	184.6	186.7	188.4	189.8	191.9	193.6	196.0	197.8	203.0
214	169.9	171.8	173.5	175.1	176.5	179.7	183.6	186.4	188.6	190.2	191.6	193.8	195.4	197.9	199.7	205.0
216	171.5	173.4	175.2	176.8	178.2	181.5	185.4	188.2	190.4	192.1	193.5	195.7	197.3	199.8	201.6	207.0
218	173.1	175.0	176.8	178.4	179.9	183.2	187.2	190.0	192.2	193.9	195.3	197.5	199.2	201.7	203.5	209.1
220	174.7	176.6	178.4	180.0	181.5	184.9	189.0	191.8	194.0	195.8	197.2	199.4	201.1	203.6	205.4	211.1
222	176.3	178.2	180.0	181.7	183.2	186.6	190.7	193.6	195.8	197.6	199.0	201.3	203.0	205.5	207.3	213.1
224	177.9	179.8	181.6	183.3	184.8	188.3	192.5	195.4	197.7	199.4	200.9	203.1	204.9	207.4	209.3	215.1
226	179.4	181.4	183.3	184.9	186.5	190.1	194.3	197.2	199.5	201.3	202.7	205.0	206.8	209.3	211.2	217.1
228	181.0	183.0	184.9	186.6	188.1	191.8	196.0	199.0	201.3	203.1	204.6	206.9	208.6	211.2	213.1	219.2
230	182.6	184.7	186.5	188.2	189.8	193.5	197.8	200.8	203.1	205.0	206.4	208.8	210.5	213.1	215.0	221.2
232	184.2	186.3	188.1	189.9	191.4	195.2	199.6	202.6	205.0	206.8	208.3	210.6	212.4	215.0	216.9	223.2
234	185.8	187.9	189.8	191.5	193.1	197.0	201.3	204.4	206.8	208.6	210.2	212.5	214.3	216.9	218.9	225.2
236	187.4	189.5	191.4	193.1	194.7	198.7	203.1	206.2	208.6	210.5	212.0	214.4	216.2	218.8	220.8	227.2
238	189.0	191.1	193.0	194.8	196.4	200.4	204.9	208.0	210.4	212.3	213.9	216.3	218.1	220.8	222.7	229.3
240	190.6	192.7	194.6	196.4	198.0	202.1	206.6	209.9	212.3	214.2	215.7	218.1	220.0	222.7	224.6	231.3
242	192.2	194.3	196.2	198.0	199.7	203.8	208.4	211.7	214.1	216.0	217.6	220.0	221.9	224.6	226.5	233.3
244	193.7	195.9	197.9	199.7	201.3	205.6	210.2	213.5	215.9	217.8	219.4	221.9	223.7	226.5	228.5	235.3
246	195.3	197.5	199.5	201.3	203.0	207.3	212.0	215.3	217.7	219.7	221.3	223.8	225.6	228.4	230.4	237.4
248	196.9	199.1	201.1	202.9	204.6	209.0	213.7	217.1	219.6	221.5	223.1	225.6	227.5	230.3	232.3	239.4
250	198.5	200.7	202.7	204.6	206.3	210.7	215.5	218.9	221.4	223.4	225.0	227.5	229.4	232.2	234.2	241.4
	.794	*.804*	*.812*	*.818*	*.826*	*.844*	*.884*	*.900*	*.912*	*.922*	*.930*	*.940*	*.948*	*.956*	*.964*	*1.014*
300	238.2	240.9	243.3	245.5	247.6	252.9	259.7	263.9	267.0	269.5	271.5	274.5	276.8	280.0	282.4	292.1
	.794	*.802*	*.810*	*.818*	*.824*	*.842*	*.864*	*.900*	*.914*	*.922*	*.930*	*.942*	*.948*	*.960*	*.964*	*1.016*
350	277.9	281.0	283.8	286.4	288.8	295.0	302.9	308.9	312.7	315.6	318.0	321.6	324.2	328.0	330.6	342.9
	.794	*.802*	*.812*	*.818*	*.826*	*.842*	*.866*	*.882*	*.912*	*.924*	*.932*	*.942*	*.952*	*.960*	*.968*	*1.020*
400	317.6	321.1	324.4	327.3	330.1	337.1	346.2	353.0	358.3	361.8	364.6	368.7	371.8	376.0	379.0	393.9
	.794	*.804*	*.810*	*.818*	*.824*	*.844*	*.866*	*.882*	*.896*	*.924*	*.932*	*.944*	*.952*	*.964*	*.970*	*1.018*
450	357.3	361.3	364.9	368.2	371.3	379.3	389.5	397.1	403.1	408.0	411.2	415.9	419.4	424.2	427.5	444.8
	.794	*.802*	*.812*	*.820*	*.826*	*.842*	*.866*	*.884*	*.896*	*.906*	*.930*	*.946*	*.954*	*.964*	*.970*	*1.022*
500	397.0	401.4	405.5	409.2	412.6	421.4	432.8	441.3	447.9	453.3	457.7	463.2	467.1	472.4	476.0	495.9
	.794	*.803*	*.810*	*.818*	*.825*	*.843*	*.865*	*.882*	*.896*	*.906*	*.916*	*.944*	*.953*	*.965*	*.973*	*1.022*
600	476.4	481.7	486.5	491.0	495.1	505.7	519.3	529.5	537.5	543.9	549.3	557.6	562.4	568.9	573.3	598.1
	.794	*.803*	*.811*	*.818*	*.825*	*.843*	*.866*	*.883*	*.896*	*.907*	*.915*	*.929*	*.954*	*.967*	*.974*	*1.024*
700	555.8	562.0	567.6	572.8	577.6	590.0	605.9	617.8	627.1	634.6	640.8	650.5	657.8	665.6	670.7	700.5
	.794	*.803*	*.811*	*.819*	*.825*	*.843*	*.865*	*.882*	*.896*	*.907*	*.916*	*.930*	*.940*	*.967*	*.975*	*1.025*
800	635.2	642.3	648.7	654.7	660.1	674.3	692.4	706.0	716.7	725.3	732.4	743.5	751.8	762.3	768.2	803.0
	.794	*.803*	*.811*	*.818*	*.826*	*.843*	*.866*	*.883*	*.896*	*.906*	*.915*	*.929*	*.940*	*.968*	*.976*	*1.025*
900	714.6	722.6	729.8	736.5	742.7	758.6	779.0	794.3	806.3	815.9	823.9	836.4	845.8	859.1	865.8	905.5
	.794	*.802*	*.811*	*.818*	*.825*	*.843*	*.865*	*.882*	*.895*	*.907*	*.916*	*.930*	*.940*	*.954*	*.976*	*1.025*
1000	794.0	802.8	810.9	818.3	825.2	842.9	865.5	882.5	895.8	906.6	915.5	929.4	939.8	954.5	963.4	1008.
	.794	*.803*	*.811*	*.819*	*.825*	*.843*	*.866*	*.883*	*.896*	*.906*	*.915*	*.926*	*.942*	*.955*	*.976*	*1.03*
1100	873.4	883.1	892.0	900.2	907.7	927.2	952.1	970.8	985.4	997.2	1007.	1022.	1034.	1050.	1061.	1111.
	.7940	*.8028*	*.8109*	*.8183*	*.8252*	*.8429*	*.8655*	*.8825*	*.8958*	*.9066*	*.9155*	*.9294*	*.9398*	*.9545*	*.9646*	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.381															
3	.601	.899														
4	.828	1.25	1.52													
5	1.04	1.61	1.97	2.22												
6	1.24	1.97	2.42	2.73	2.96											
7	1.45	2.34	2.88	3.25	3.52	3.74										
8	1.66	2.72	3.34	3.77	4.09	4.34	4.54									
9	1.86	3.09	3.81	4.31	4.67	4.95	5.18	5.37								
10	2.07	3.44	4.29	4.84	5.25	5.57	5.82	6.04	6.22							
11	2.28	3.78	4.76	5.39	5.84	6.19	6.47	6.71	6.90	7.08						
12	2.48	4.13	5.24	5.93	6.43	6.82	7.13	7.38	7.60	7.79	7.95					
13	2.69	4.47	5.72	6.48	7.03	7.45	7.79	8.06	8.30	8.50	8.68	8.83				
14	2.90	4.81	6.20	7.03	7.63	8.09	8.45	8.75	9.00	9.22	9.41	9.58	9.73			
15	3.11	5.16	6.68	7.58	8.23	8.73	9.12	9.44	9.71	9.94	10.1	10.3	10.5	10.6		
16	3.31	5.50	7.16	8.14	8.84	9.37	9.79	10.1	10.4	10.7	10.9	11.1	11.2	11.4	11.5	
17	3.52	5.85	7.61	8.69	9.44	10.0	10.5	10.8	11.1	11.4	11.6	11.8	12.0	12.2	12.3	12.5
18	3.73	6.19	8.06	9.25	10.1	10.7	11.1	11.5	11.9	12.1	12.4	12.6	12.8	13.0	13.1	13.3
19	3.93	6.53	8.51	9.80	10.7	11.3	11.8	12.2	12.6	12.9	13.1	13.3	13.5	13.7	13.9	14.0
20	4.14	6.88	8.95	10.4	11.3	12.0	12.5	12.9	13.3	13.6	13.9	14.1	14.3	14.5	14.7	14.8
21	4.35	7.22	9.40	10.9	11.9	12.6	13.2	13.6	14.0	14.3	14.6	14.9	15.1	15.3	15.5	15.6
22	4.55	7.57	9.85	11.5	12.5	13.3	13.9	14.3	14.7	15.1	15.4	15.6	15.9	16.1	16.3	16.4
23	4.76	7.91	10.3	12.0	13.1	13.9	14.5	15.1	15.5	15.8	16.1	16.4	16.7	16.9	17.1	17.2
24	4.97	8.25	10.7	12.6	13.7	14.6	15.2	15.8	16.2	16.6	16.9	17.2	17.4	17.7	17.9	18.1
25	5.18	8.60	11.2	13.1	14.3	15.2	15.9	16.5	16.9	17.3	17.7	18.0	18.2	18.5	18.7	18.9
26	5.38	8.94	11.6	13.7	14.9	15.9	16.6	17.2	17.7	18.1	18.4	18.7	19.0	19.3	19.5	19.7
27	5.59	9.28	12.1	14.2	15.6	16.5	17.3	17.9	18.4	18.8	19.2	19.5	19.8	20.0	20.3	20.5
28	5.80	9.63	12.5	14.7	16.2	17.2	18.0	18.6	19.1	19.6	20.0	20.3	20.6	20.8	21.1	21.3
29	6.00	9.97	13.0	15.2	16.8	17.9	18.7	19.3	19.9	20.3	20.7	21.1	21.4	21.6	21.9	22.1
30	6.21	10.3	13.4	15.8	17.4	18.5	19.4	20.1	20.6	21.1	21.5	21.9	22.2	22.4	22.7	22.9
31	6.42	10.7	13.9	16.3	18.0	19.2	20.1	20.8	21.4	21.8	22.3	22.6	23.0	23.3	23.5	23.7
32	6.63	11.0	14.3	16.8	18.6	19.8	20.8	21.5	22.1	22.6	23.0	23.4	23.8	24.1	24.3	24.6
33	6.83	11.3	14.8	17.4	19.2	20.5	21.4	22.2	22.8	23.4	23.8	24.2	24.6	24.9	25.1	25.4
34	7.04	11.7	15.2	17.9	19.9	21.1	22.1	22.9	23.6	24.1	24.6	25.0	25.3	25.7	26.0	26.2
35	7.25	12.0	15.7	18.4	20.5	21.8	22.8	23.6	24.3	24.9	25.4	25.8	26.1	26.5	26.8	27.0
36	7.45	12.4	16.1	18.9	21.1	22.5	23.5	24.4	25.1	25.6	26.1	26.6	26.9	27.3	27.6	27.9
37	7.66	12.7	16.6	19.5	21.7	23.1	24.2	25.1	25.8	26.4	26.9	27.4	27.7	28.1	28.4	28.7
38	7.87	13.1	17.0	20.0	22.3	23.8	24.9	25.8	26.6	27.2	27.7	28.1	28.5	28.9	29.2	29.5
39	8.07	13.4	17.5	20.5	22.8	24.4	25.6	26.5	27.3	27.9	28.5	28.9	29.3	29.7	30.0	30.3
40	8.28	13.8	17.9	21.0	23.4	25.1	26.3	27.3	28.0	28.7	29.2	29.7	30.2	30.5	30.9	31.2
41	8.49	14.1	18.4	21.6	24.0	25.8	27.0	28.0	28.8	29.5	30.0	30.5	31.0	31.3	31.7	32.0
42	8.70	14.4	18.8	22.1	24.6	26.4	27.7	28.7	29.5	30.2	30.8	31.3	31.8	32.2	32.5	32.8
43	8.90	14.8	19.2	22.6	25.2	27.1	28.4	29.4	30.3	31.0	31.6	32.1	32.6	33.0	33.3	33.7
44	9.11	15.1	19.7	23.1	25.8	27.7	29.1	30.2	31.0	31.8	32.4	32.9	33.4	33.8	34.1	34.5
45	9.32	15.5	20.1	23.7	26.4	28.4	29.8	30.9	31.8	32.5	33.2	33.7	34.2	34.6	35.0	35.3
46	9.52	15.8	20.6	24.2	26.9	29.0	30.5	31.6	32.5	33.3	33.9	34.5	35.0	35.4	35.8	36.1
47	9.73	16.2	21.0	24.7	27.5	29.7	31.2	32.3	33.3	34.1	34.7	35.3	35.8	36.2	36.6	37.0
48	9.94	16.5	21.5	25.2	28.1	30.4	31.9	33.0	34.0	34.8	35.5	36.1	36.6	37.0	37.5	37.8
49	10.1	16.8	21.9	25.8	28.7	31.0	32.6	33.8	34.8	35.6	36.3	36.9	37.4	37.9	38.3	38.6
50	10.4	17.2	22.4	26.3	29.3	31.6	33.2	34.5	35.5	36.4	37.1	37.7	38.2	38.7	39.1	39.5
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
																.0526	1
																.381	2
																.899	3
																1.52	4
																2.22	5
																2.96	6
																3.74	7
																4.54	8
																5.37	9
																6.22	10
																7.08	11
																7.95	12
																8.83	13
																9.73	14
																10.6	15
																11.5	16
																12.5	17
	13.4															13.4	18
	14.2	14.3														14.3	19
	15.0	15.1	15.2													15.2	20
	15.8	15.9	16.1	16.2												16.2	21
	16.6	16.7	16.9	17.0	17.1											17.1	22
	17.4	17.6	17.7	17.8	18.0											18.1	23
	18.2	18.4	18.5	18.7	18.8											19.0	24
	19.0	19.2	19.4	19.5	19.6	20.0										20.0	25
	19.9	20.0	20.2	20.3	20.5	20.8										20.9	26
	20.7	20.9	21.0	21.2	21.3	21.7										21.9	27
	21.5	21.7	21.8	22.0	22.1	22.5										22.9	28
	22.3	22.5	22.7	22.8	23.0	23.4										23.8	29
	23.1	23.3	23.5	23.7	23.8	24.2	24.8									24.8	30
	24.0	24.2	24.3	24.5	24.7	25.1	25.7									25.8	31
	24.8	25.0	25.2	25.4	25.5	26.0	26.5									26.7	32
	25.6	25.8	26.0	26.2	26.4	26.8	27.4									27.7	33
	26.4	26.7	26.9	27.0	27.2	27.7	28.3									28.7	34
	27.3	27.5	27.7	27.9	28.1	28.5	29.2	29.7								29.7	35
	28.1	28.3	28.5	28.7	28.9	29.4	30.0	30.6								30.7	36
	28.9	29.2	29.4	29.6	29.8	30.3	30.9	31.5								31.6	37
	29.8	30.0	30.2	30.4	30.6	31.1	31.8	32.3								32.6	38
	30.6	30.8	31.1	31.3	31.5	32.0	32.7	33.2								33.6	39
	31.4	31.7	31.9	32.1	32.3	32.9	33.6	34.1	34.6							34.6	40
	32.3	32.5	32.8	33.0	33.2	33.7	34.5	35.0	35.5							35.6	41
	33.1	33.4	33.6	33.8	34.1	34.6	35.3	35.9	36.4							36.6	42
	33.9	34.2	34.5	34.7	34.9	35.5	36.2	36.8	37.3							37.6	43
	34.8	35.1	35.3	35.5	35.8	36.3	37.1	37.7	38.2							38.6	44
	35.6	35.9	36.2	36.4	36.6	37.2	38.0	38.6	39.1	39.6						39.6	45
	36.5	36.7	37.0	37.3	37.5	38.1	38.9	39.5	40.0	40.5						40.5	46
	37.3	37.6	37.9	38.1	38.3	39.0	39.8	40.4	40.9	41.4						41.5	47
	38.1	38.4	38.7	39.0	39.2	39.8	40.7	41.3	41.8	42.3						42.5	48
	39.0	39.3	39.6	39.8	40.1	40.7	41.5	42.2	42.8	43.2						43.5	49
	39.8	40.1	40.4	40.7	40.9	41.6	42.4	43.1	43.7	44.1	44.5					44.5	50
k \ N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	10.4	17.2	22.4	26.3	29.3	31.6	33.2	34.5	35.5	36.4	37.1	37.7	38.2	38.7	39.1	39.5
51	10.6	17.5	22.8	26.8	29.9	32.3	33.9	35.2	36.3	37.1	37.8	38.5	39.0	39.5	39.9	40.3
52	10.8	17.9	23.3	27.3	30.5	32.9	34.6	35.9	37.0	37.9	38.6	39.3	39.8	40.3	40.8	41.2
53	11.0	18.2	23.7	27.9	31.0	33.5	35.3	36.7	37.8	38.7	39.4	40.1	40.6	41.1	41.6	42.0
54	11.2	18.6	24.2	28.4	31.6	34.2	36.0	37.4	38.5	39.4	40.2	40.9	41.5	42.0	42.4	42.8
55	11.4	18.9	24.6	28.9	32.2	34.8	36.7	38.1	39.2	40.2	41.0	41.7	42.3	42.8	43.2	43.7
56	11.6	19.3	25.1	29.4	32.8	35.4	37.4	38.8	40.0	41.0	41.8	42.5	43.1	43.6	44.1	44.5
57	11.8	19.6	25.5	30.0	33.4	36.1	38.1	39.6	40.7	41.7	42.6	43.3	43.9	44.4	44.9	45.3
58	12.0	19.9	26.0	30.5	34.0	36.7	38.8	40.3	41.5	42.5	43.3	44.1	44.7	45.2	45.7	46.2
59	12.2	20.3	26.4	31.0	34.6	37.3	39.5	41.0	42.2	43.3	44.1	44.9	45.5	46.1	46.6	47.0
60	12.4	20.6	26.9	31.5	35.1	38.0	40.2	41.7	43.0	44.0	44.9	45.7	46.3	46.9	47.4	47.9
61	12.6	21.0	27.3	32.1	35.7	38.6	40.9	42.4	43.7	44.8	45.7	46.5	47.1	47.7	48.2	48.7
62	12.8	21.3	27.8	32.6	36.3	39.2	41.5	43.2	44.5	45.6	46.5	47.3	47.9	48.5	49.1	49.5
63	13.0	21.7	28.2	33.1	36.9	39.9	42.2	43.9	45.2	46.3	47.3	48.1	48.8	49.4	49.9	50.4
64	13.3	22.0	28.6	33.7	37.5	40.5	42.9	44.6	46.0	47.1	48.1	48.9	49.6	50.2	50.7	51.2
65	13.5	22.4	29.1	34.2	38.1	41.1	43.6	45.3	46.7	47.9	48.8	49.7	50.4	51.0	51.6	52.1
66	13.7	22.7	29.5	34.7	38.7	41.8	44.3	46.1	47.5	48.6	49.6	50.5	51.2	51.8	52.4	52.9
67	13.9	23.0	30.0	35.2	39.2	42.4	44.9	46.8	48.2	49.4	50.4	51.3	52.0	52.7	53.2	53.8
68	14.1	23.4	30.4	35.8	39.8	43.0	45.6	47.5	49.0	50.2	51.2	52.1	52.8	53.5	54.1	54.6
69	14.3	23.7	30.9	36.3	40.4	43.7	46.3	48.2	49.7	50.9	52.0	52.9	53.6	54.3	54.9	55.4
70	14.5	24.1	31.3	36.8	41.0	44.3	47.0	48.9	50.5	51.7	52.8	53.7	54.5	55.1	55.7	56.3
71	14.7	24.4	31.8	37.3	41.6	44.9	47.6	49.7	51.2	52.5	53.6	54.5	55.3	56.0	56.6	57.1
72	14.9	24.8	32.2	37.9	42.2	45.6	48.3	50.4	52.0	53.3	54.3	55.3	56.1	56.8	57.4	58.0
73	15.1	25.1	32.7	38.4	42.8	46.2	49.0	51.1	52.7	54.0	55.1	56.1	56.9	57.6	58.2	58.8
74	15.3	25.4	33.1	38.9	43.3	46.8	49.6	51.8	53.4	54.8	55.9	56.9	57.7	58.4	59.1	59.7
75	15.5	25.8	33.6	39.4	43.9	47.5	50.3	52.5	54.2	55.6	56.7	57.7	58.5	59.3	59.9	60.5
76	15.7	26.1	34.0	40.0	44.5	48.1	51.0	53.3	54.9	56.3	57.5	58.5	59.3	60.1	60.8	61.3
77	15.9	26.5	34.5	40.5	45.1	48.7	51.6	54.0	55.7	57.1	58.3	59.3	60.2	60.9	61.6	62.2
78	16.1	26.8	34.9	41.0	45.7	49.4	52.3	54.7	56.4	57.9	59.1	60.1	61.0	61.7	62.4	63.0
79	16.4	27.2	35.4	41.5	46.3	50.0	53.0	55.4	57.2	58.6	59.8	60.9	61.8	62.6	63.3	63.9
80	16.6	27.5	35.8	42.1	46.9	50.6	53.7	56.1	57.9	59.4	60.6	61.7	62.6	63.4	64.1	64.7
81	16.8	27.9	36.3	42.6	47.4	51.3	54.3	56.8	58.7	60.2	61.4	62.5	63.4	64.2	64.9	65.6
82	17.0	28.2	36.7	43.1	48.0	51.9	55.0	57.5	59.4	60.9	62.2	63.3	64.2	65.0	65.8	66.4
83	17.2	28.5	37.2	43.6	48.6	52.5	55.7	58.2	60.1	61.7	63.0	64.1	65.0	65.9	66.6	67.3
84	17.4	28.9	37.6	44.2	49.2	53.2	56.3	58.9	60.9	62.5	63.8	64.9	65.9	66.7	67.4	68.1
85	17.6	29.2	38.1	44.7	49.8	53.8	57.0	59.6	61.6	63.2	64.6	65.7	66.7	67.5	68.3	69.0
86	17.8	29.6	38.5	45.2	50.4	54.4	57.7	60.3	62.4	64.0	65.3	66.5	67.5	68.4	69.1	69.8
87	18.0	29.9	38.9	45.7	51.0	55.1	58.4	61.0	63.1	64.8	66.1	67.3	68.3	69.2	70.0	70.6
88	18.2	30.3	39.4	46.3	51.6	55.7	59.0	61.7	63.9	65.5	66.9	68.1	69.1	70.0	70.8	71.5
89	18.4	30.6	39.8	46.8	52.1	56.3	59.7	62.5	64.6	66.3	67.7	68.9	69.9	70.8	71.6	72.3
90	18.6	30.9	40.3	47.3	52.7	57.0	60.4	63.2	65.3	67.1	68.5	69.7	70.8	71.7	72.5	73.2
91	18.8	31.3	40.7	47.8	53.3	57.6	61.0	63.9	66.1	67.8	69.3	70.5	71.6	72.5	73.3	74.0
92	19.0	31.6	41.2	48.4	53.9	58.2	61.7	64.6	66.8	68.6	70.1	71.3	72.4	73.3	74.1	74.9
93	19.3	32.0	41.6	48.9	54.5	58.9	62.4	65.3	67.6	69.3	70.8	72.1	73.2	74.1	75.0	75.7
94	19.5	32.3	42.1	49.4	55.1	59.5	63.1	66.0	68.3	70.1	71.6	72.9	74.0	75.0	75.8	76.6
95	19.7	32.7	42.5	50.0	55.7	60.1	63.7	66.7	69.0	70.9	72.4	73.7	74.8	75.8	76.7	77.4
96	19.9	33.0	43.0	50.5	56.2	60.8	64.4	67.4	69.8	71.6	73.2	74.5	75.6	76.6	77.5	78.3
97	20.1	33.4	43.4	51.0	56.8	61.4	65.1	68.1	70.5	72.4	74.0	75.3	76.5	77.5	78.3	79.1
98	20.3	33.7	43.9	51.5	57.4	62.0	65.7	68.8	71.3	73.2	74.8	76.1	77.3	78.3	79.2	80.0
99	20.5	34.0	44.3	52.1	58.0	62.7	66.4	69.5	72.0	73.9	75.5	76.9	78.1	79.1	80.0	80.8
100	20.7	34.4	44.8	52.6	58.6	63.3	67.1	70.2	72.7	74.7	76.3	77.7	78.9	79.9	80.8	81.7
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
50	39.8	40.1	40.4	40.7	40.9	41.6	42.4	43.1	43.7	44.1	44.5					44.5	50
51	40.7	41.0	41.3	41.6	41.8	42.5	43.3	44.0	44.6	45.0	45.5					45.5	51
52	41.5	41.8	42.1	42.4	42.7	43.3	44.2	44.9	45.5	46.0	46.4					46.5	52
53	42.4	42.7	43.0	43.3	43.5	44.2	45.1	45.8	46.4	46.9	47.3					47.5	53
54	43.2	43.5	43.8	44.1	44.4	45.1	46.0	46.7	47.3	47.8	48.2					48.5	54
55	44.0	44.4	44.7	45.0	45.3	46.0	46.9	47.6	48.2	48.7	49.2					49.5	55
56	44.9	45.2	45.6	45.9	46.1	46.8	47.8	48.5	49.1	49.6	50.1					50.5	56
57	45.7	46.1	46.4	46.7	47.0	47.7	48.7	49.4	50.0	50.6	51.0					51.5	57
58	46.6	46.9	47.3	47.6	47.9	48.6	49.6	50.3	51.0	51.5	51.9					52.6	58
59	47.4	47.8	48.1	48.4	48.7	49.5	50.5	51.2	51.9	52.4	52.9					53.6	59
60	48.3	48.7	49.0	49.3	49.6	50.4	51.4	52.2	52.8	53.3	53.8	54.6				54.6	60
61	49.1	49.5	49.9	50.2	50.5	51.3	52.3	53.1	53.7	54.3	54.7	55.5				55.6	61
62	50.0	50.4	50.7	51.0	51.3	52.1	53.2	54.0	54.6	55.2	55.7	56.4				56.6	62
63	50.8	51.2	51.6	51.9	52.2	53.0	54.1	54.9	55.5	56.1	56.6	57.4				57.6	63
64	51.7	52.1	52.4	52.8	53.1	53.9	55.0	55.8	56.5	57.0	57.5	58.3				58.6	64
65	52.5	52.9	53.3	53.6	54.0	54.8	55.9	56.7	57.4	58.0	58.4	59.3				59.6	65
66	53.4	53.8	54.2	54.5	54.8	55.7	56.8	57.6	58.3	58.9	59.4	60.2				60.6	66
67	54.2	54.6	55.0	55.4	55.7	56.6	57.7	58.5	59.2	59.8	60.3	61.1				61.6	67
68	55.1	55.5	55.9	56.2	56.6	57.4	58.6	59.4	60.1	60.7	61.2	62.1				62.6	68
69	55.9	56.4	56.7	57.1	57.4	58.3	59.5	60.3	61.1	61.7	62.2	63.0				63.7	69
70	56.8	57.2	57.6	58.0	58.3	59.2	60.4	61.3	62.0	62.6	63.1	64.0	64.7			64.7	70
71	57.6	58.1	58.5	58.8	59.2	60.1	61.3	62.2	62.9	63.5	64.0	64.9	65.6			65.7	71
72	58.5	58.9	59.3	59.7	60.1	61.0	62.2	63.1	63.8	64.4	65.0	65.9	66.6			66.7	72
73	59.3	59.8	60.2	60.6	60.9	61.9	63.1	64.0	64.7	65.4	65.9	66.8	67.5			67.7	73
74	60.2	60.6	61.1	61.5	61.8	62.8	64.0	64.9	65.7	66.3	66.8	67.7	68.5			68.7	74
75	61.0	61.5	61.9	62.3	62.7	63.6	64.9	65.8	66.6	67.2	67.8	68.7	69.4			69.7	75
76	61.9	62.4	62.8	63.2	63.6	64.5	65.8	66.7	67.5	68.2	68.7	69.6	70.4			70.8	76
77	62.7	63.2	63.7	64.1	64.4	65.4	66.7	67.6	68.4	69.1	69.7	70.6	71.3			71.8	77
78	63.6	64.1	64.5	64.9	65.3	66.3	67.6	68.6	69.4	70.0	70.6	71.5	72.3			72.8	78
79	64.4	64.9	65.4	65.8	66.2	67.2	68.5	69.5	70.3	70.9	71.5	72.5	73.2			73.8	79
80	65.3	65.8	66.3	66.7	67.1	68.1	69.4	70.4	71.2	71.9	72.5	73.4	74.2			74.8	80
81	66.1	66.7	67.1	67.6	67.9	69.0	70.3	71.3	72.1	72.8	73.4	74.4	75.1			75.8	81
82	67.0	67.5	68.0	68.4	68.8	69.9	71.2	72.2	73.1	73.7	74.3	75.3	76.1			76.9	82
83	67.8	68.4	68.9	69.3	69.7	70.8	72.1	73.1	74.0	74.7	75.3	76.3	77.0			77.9	83
84	68.7	69.2	69.7	70.2	70.6	71.6	73.0	74.1	74.9	75.6	76.2	77.2	78.0			78.9	84
85	69.6	70.1	70.6	71.0	71.5	72.5	73.9	75.0	75.8	76.5	77.1	78.1	79.0			79.9	85
86	70.4	71.0	71.5	71.9	72.3	73.4	74.8	75.9	76.8	77.5	78.1	79.1	79.9			80.9	86
87	71.3	71.8	72.3	72.8	73.2	74.3	75.7	76.8	77.7	78.4	79.0	80.0	80.9			82.0	87
88	72.1	72.7	73.2	73.7	74.1	75.2	76.6	77.7	78.6	79.3	80.0	81.0	81.8			83.0	88
89	73.0	73.5	74.1	74.5	75.0	76.1	77.5	78.6	79.5	80.3	80.9	81.9	82.8			84.0	89
90	73.8	74.4	74.9	75.4	75.8	77.0	78.4	79.6	80.5	81.2	81.8	82.9	83.7	85.0		85.0	90
91	74.7	75.3	75.8	76.3	76.7	77.9	79.4	80.5	81.4	82.1	82.8	83.8	84.7	86.0		86.0	91
92	75.5	76.1	76.7	77.2	77.6	78.8	80.3	81.4	82.3	83.1	83.7	84.8	85.6	86.9		87.1	92
93	76.4	77.0	77.5	78.0	78.5	79.7	81.2	82.3	83.2	84.0	84.7	85.7	86.6	87.9		88.1	93
94	77.2	77.8	78.4	78.9	79.4	80.6	82.1	83.2	84.2	84.9	85.6	86.7	87.6	88.9		89.1	94
95	78.1	78.7	79.3	79.8	80.2	81.4	83.0	84.2	85.1	85.9	86.5	87.6	88.5	89.8		90.1	95
96	79.0	79.6	80.1	80.7	81.1	82.3	83.9	85.1	86.0	86.8	87.5	88.6	89.5	90.8		91.1	96
97	79.8	80.4	81.0	81.5	82.0	83.2	84.8	86.0	87.0	87.8	88.4	89.5	90.4	91.8		92.2	97
98	80.7	81.3	81.9	82.4	82.9	84.1	85.7	86.9	87.9	88.7	89.4	90.5	91.4	92.8		93.2	98
99	81.5	82.2	82.7	83.3	83.8	85.0	86.6	87.8	88.8	89.6	90.3	91.4	92.3	93.7		94.2	99
100	82.4	83.0	83.6	84.2	84.6	85.9	87.5	88.8	89.8	90.6	91.3	92.4	93.3	94.7		95.2	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	20.7	34.4	44.8	52.6	58.6	63.3	67.1	70.2	72.7	74.7	76.3	77.7	78.9	79.9	80.8	81.7
102	21.1	35.1	45.7	53.6	59.8	64.6	68.4	71.6	74.2	76.2	77.9	79.3	80.5	81.6	82.5	83.3
104	21.5	35.8	46.6	54.7	60.9	65.8	69.8	73.0	75.6	77.7	79.5	80.9	82.2	83.2	84.2	85.0
106	21.9	36.4	47.5	55.7	62.1	67.1	71.1	74.4	77.1	79.3	81.0	82.5	83.8	84.9	85.9	86.7
108	22.4	37.1	48.3	56.8	63.3	68.4	72.4	75.8	78.6	80.8	82.6	84.1	85.4	86.5	87.5	88.4
110	22.8	37.8	49.2	57.8	64.4	69.6	73.8	77.2	80.0	82.3	84.1	85.7	87.0	88.2	89.2	90.1
112	23.2	38.5	50.1	58.9	65.6	70.9	75.1	78.6	81.5	83.8	85.7	87.3	88.7	89.9	90.9	91.8
114	23.6	39.2	51.0	59.9	66.8	72.2	76.5	80.0	82.9	85.3	87.3	88.9	90.3	91.5	92.6	93.5
116	24.0	39.9	51.9	61.0	68.0	73.4	77.8	81.4	84.4	86.8	88.8	90.5	91.9	93.2	94.2	95.2
118	24.4	40.6	52.8	62.0	69.1	74.7	79.1	82.8	85.8	88.3	90.4	92.1	93.5	94.8	95.9	96.9
120	24.8	41.3	53.7	63.1	70.3	76.0	80.5	84.2	87.3	89.8	91.9	93.7	95.2	96.5	97.6	98.6
122	25.3	42.0	54.6	64.1	71.5	77.2	81.8	85.6	88.7	91.3	93.5	95.3	96.8	98.1	99.3	100.3
124	25.7	42.6	55.5	65.2	72.6	78.5	83.2	87.0	90.2	92.8	95.0	96.9	98.4	99.8	100.9	102.0
126	26.1	43.3	56.4	66.3	73.8	79.7	84.5	88.4	91.7	94.3	96.5	98.4	100.0	101.4	102.6	103.7
128	26.5	44.0	57.3	67.3	75.0	81.0	85.9	89.8	93.1	95.8	98.1	100.0	101.7	103.1	104.3	105.4
130	26.9	44.7	58.2	68.4	76.2	82.3	87.2	91.2	94.6	97.3	99.6	101.6	103.3	104.7	106.0	107.1
132	27.3	45.4	59.1	69.4	77.3	83.5	88.5	92.6	96.0	98.8	101.1	103.2	104.9	106.4	107.6	108.8
134	27.7	46.1	60.0	70.5	78.5	84.8	89.9	94.0	97.5	100.3	102.7	104.8	106.5	108.0	109.3	110.4
136	28.2	46.8	60.9	71.5	79.7	86.1	91.2	95.4	98.9	101.8	104.2	106.3	108.1	109.6	111.0	112.1
138	28.6	47.5	61.8	72.6	80.8	87.3	92.6	96.8	100.4	103.3	105.7	107.9	109.8	111.3	112.6	113.8
140	29.0	48.1	62.7	73.6	82.0	88.6	93.9	98.2	101.8	104.7	107.3	109.4	111.4	112.9	114.3	115.5
142	29.4	48.8	63.6	74.7	83.2	89.9	95.2	99.6	103.3	106.2	108.8	111.0	113.0	114.6	116.0	117.2
144	29.8	49.5	64.5	75.7	84.4	91.1	96.6	101.0	104.7	107.7	110.3	112.6	114.6	116.2	117.6	118.9
146	30.2	50.2	65.4	76.8	85.5	92.4	97.9	102.4	106.2	109.2	111.9	114.1	116.1	117.9	119.3	120.6
148	30.6	50.9	66.3	77.8	86.7	93.7	99.3	103.8	107.7	110.7	113.4	115.7	117.7	119.5	121.0	122.3
150	31.1	51.6	67.1	78.9	87.9	94.9	100.6	105.3	109.1	112.2	114.9	117.3	119.3	121.2	122.7	124.0
152	31.5	52.3	68.0	79.9	89.0	96.2	102.0	106.7	110.6	113.7	116.5	118.8	120.9	122.8	124.3	125.7
154	31.9	53.0	68.9	81.0	90.2	97.5	103.3	108.1	112.0	115.2	118.0	120.4	122.5	124.4	126.0	127.3
156	32.3	53.6	69.8	82.0	91.4	98.7	104.6	109.5	113.5	116.7	119.5	122.0	124.1	126.0	127.7	129.0
158	32.7	54.3	70.7	83.1	92.6	100.0	106.0	110.9	114.9	118.2	121.0	123.5	125.7	127.6	129.3	130.7
160	33.1	55.0	71.6	84.1	93.7	101.3	107.3	112.3	116.4	119.7	122.6	125.1	127.3	129.2	131.0	132.4
162	33.5	55.7	72.5	85.2	94.9	102.5	108.7	113.7	117.8	121.2	124.1	126.6	128.9	130.8	132.6	134.1
164	34.0	56.4	73.4	86.2	96.1	103.8	110.0	115.1	119.3	122.7	125.6	128.2	130.5	132.5	134.3	135.8
166	34.4	57.1	74.3	87.3	97.2	105.1	111.3	116.5	120.7	124.2	127.2	129.8	132.1	134.1	135.9	137.5
168	34.8	57.8	75.2	88.3	98.4	106.3	112.7	117.9	122.2	125.7	128.7	131.3	133.6	135.7	137.5	139.2
170	35.2	58.5	76.1	89.4	99.6	107.6	114.0	119.3	123.7	127.2	130.2	132.9	135.2	137.3	139.2	140.8
172	35.6	59.1	77.0	90.4	100.8	108.9	115.4	120.7	125.1	128.7	131.8	134.5	136.8	138.9	140.8	142.5
174	36.0	59.8	77.9	91.5	101.9	110.1	116.7	122.1	126.6	130.2	133.3	136.0	138.4	140.5	142.4	144.2
176	36.4	60.5	78.8	92.5	103.1	111.4	118.1	123.5	128.0	131.7	134.8	137.6	140.0	142.2	144.1	145.8
178	36.9	61.2	79.7	93.6	104.3	112.7	119.4	124.9	129.5	133.2	136.4	139.2	141.6	143.8	145.7	147.5
180	37.3	61.9	80.6	94.6	105.4	113.9	120.7	126.3	130.9	134.7	137.9	140.7	143.2	145.4	147.4	149.1
182	37.7	62.6	81.5	95.7	106.6	115.2	122.1	127.7	132.4	136.2	139.4	142.3	144.8	147.0	149.0	150.8
184	38.1	63.3	82.4	96.7	107.8	116.5	123.4	129.1	133.8	137.7	141.0	143.8	146.4	148.6	150.6	152.4
186	38.5	64.0	83.3	97.8	109.0	117.7	124.8	130.5	135.3	139.2	142.5	145.4	148.0	150.2	152.3	154.1
188	38.9	64.6	84.2	98.9	110.1	119.0	126.1	131.9	136.8	140.7	144.0	147.0	149.6	151.9	153.9	155.8
190	39.3	65.3	85.1	99.9	111.3	120.3	127.4	133.3	138.2	142.2	145.6	148.5	151.1	153.5	155.5	157.4
192	39.8	66.0	85.9	101.0	112.5	121.5	128.8	134.7	139.7	143.7	147.1	150.1	152.7	155.1	157.2	159.1
194	40.2	66.7	86.8	102.0	113.6	122.8	130.1	136.1	141.1	145.2	148.6	151.7	154.3	156.7	158.8	160.7
196	40.6	67.4	87.7	103.1	114.8	124.1	131.5	137.5	142.6	146.6	150.2	153.2	155.9	158.3	160.5	162.4
198	41.0	68.1	88.6	104.1	116.0	125.3	132.8	138.9	144.0	148.1	151.7	154.8	157.5	159.9	162.1	164.0
200	41.4	68.8	89.5	105.2	117.2	126.6	134.2	140.3	145.5	149.6	153.2	156.4	159.1	161.5	163.7	165.7
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
100	82.4	83.0	83.6	84.2	84.6	85.9	87.5	88.8	89.8	90.6	91.3	92.4	93.3	94.7		95.2
102	84.1	84.7	85.44	85.9	86.4	87.7	89.4	90.6	91.6	92.4	93.1	94.3	95.2	96.6		97.3
104	85.8	86.5	87.1	87.7	88.2	89.5	91.2	92.5	93.5	94.3	95.0	96.2	97.1	98.6		99.3
106	87.5	88.2	88.8	89.4	89.9	91.3	93.0	94.3	95.3	96.2	96.9	98.1	99.1	100.5		101.4
108	89.2	89.9	90.6	91.2	91.7	93.1	94.8	96.1	97.2	98.1	98.8	100.0	101.0	102.4		103.4
110	90.9	91.7	92.3	92.9	93.5	94.9	96.6	98.0	99.1	99.9	100.7	101.9	102.9	104.4	105.5	105.5
112	92.6	93.4	94.1	94.7	95.2	96.7	98.5	99.8	100.9	101.8	102.6	103.8	104.8	106.3	107.4	107.5
114	94.4	95.1	95.8	96.4	97.0	98.4	100.3	101.7	102.8	103.7	104.5	105.7	106.7	108.3	109.4	109.6
116	96.1	96.8	97.5	98.2	98.7	100.2	102.1	103.5	104.7	105.6	106.4	107.6	108.7	110.2	111.4	111.7
118	97.8	98.6	99.3	99.9	100.5	102.0	103.9	105.4	106.5	107.5	108.3	109.6	110.6	112.1	113.3	113.7
120	99.5	100.3	101.0	101.7	102.3	103.8	105.8	107.2	108.4	109.4	110.2	111.5	112.5	114.1	115.3	115.8
122	101.2	102.0	102.8	103.4	104.0	105.6	107.6	109.1	110.3	111.2	112.1	113.4	114.4	116.0	117.2	117.8
124	102.9	103.7	104.5	105.2	105.8	107.4	109.4	110.9	112.1	113.1	113.9	115.3	116.4	118.0	119.2	119.9
126	104.6	105.5	106.2	106.9	107.6	109.2	111.3	112.8	114.0	115.0	115.8	117.2	118.3	119.9	121.2	121.9
128	106.3	107.2	108.0	108.7	109.3	111.0	113.1	114.6	115.9	116.9	117.7	119.1	120.2	121.9	123.1	124.0
130	108.0	108.9	109.7	110.4	111.1	112.8	114.9	116.5	117.7	118.8	119.6	121.0	122.1	123.8	125.1	126.1
132	109.8	110.7	111.5	112.2	112.9	114.6	116.7	118.4	119.6	120.7	121.5	123.0	124.1	125.8	127.0	128.1
134	111.5	112.4	113.2	114.0	114.6	116.4	118.6	120.2	121.5	122.5	123.4	124.9	126.0	127.7	129.0	130.2
136	113.2	114.1	114.9	115.7	116.4	118.2	120.4	122.1	123.4	124.4	125.3	126.8	127.9	129.7	131.0	132.3
138	114.9	115.8	116.7	117.5	118.2	120.0	122.2	123.9	125.2	126.3	127.2	128.7	129.9	131.6	132.9	134.3
140	116.6	117.6	118.4	119.2	119.9	121.8	124.1	125.8	127.1	128.2	129.1	130.6	131.8	133.6	134.9	136.4
142	118.3	119.3	120.2	121.0	121.7	123.6	125.9	127.6	129.0	130.1	131.0	132.5	133.7	135.5	136.8	138.4
144	120.0	121.0	121.9	122.7	123.5	125.4	127.7	129.5	130.9	132.0	132.9	134.5	135.7	137.5	138.8	140.5
146	121.7	122.7	123.7	124.5	125.2	127.2	129.6	131.3	132.7	133.9	134.8	136.4	137.6	139.4	140.8	142.6
148	123.4	124.5	125.4	126.2	127.0	129.0	131.4	133.2	134.6	135.8	136.7	138.3	139.5	141.4	142.7	144.6
150	125.1	126.2	127.1	128.0	128.8	130.8	133.2	135.1	136.5	137.7	138.6	140.2	141.5	143.3	144.7	146.7
152	126.9	127.9	128.9	129.7	130.5	132.6	135.1	136.9	138.4	139.6	140.5	142.1	143.4	145.3	146.7	148.8
154	128.6	129.6	130.6	131.5	132.3	134.3	136.9	138.8	140.3	141.4	142.4	144.1	145.3	147.2	148.6	150.8
156	130.3	131.4	132.4	133.3	134.1	136.1	138.7	140.6	142.1	143.3	144.4	146.0	147.3	149.2	150.6	152.9
158	132.0	133.1	134.1	135.0	135.8	137.9	140.6	142.5	144.0	145.2	146.3	147.9	149.2	151.1	152.6	155.0
160	133.7	134.8	135.8	136.8	137.6	139.7	142.4	144.4	145.9	147.1	148.2	149.8	151.1	153.1	154.5	157.0
162	135.4	136.5	137.6	138.5	139.4	141.5	144.2	146.2	147.8	149.0	150.1	151.8	153.1	155.0	156.5	159.1
164	137.1	138.3	139.3	140.3	141.1	143.3	146.1	148.1	149.6	150.9	152.0	153.7	155.0	157.0	158.5	161.2
166	138.8	140.0	141.1	142.0	142.9	145.1	147.9	149.9	151.5	152.8	153.9	155.6	156.9	159.0	160.4	163.3
168	140.5	141.7	142.8	143.8	144.7	146.9	149.7	151.8	153.4	154.7	155.8	157.5	158.9	160.9	162.4	165.3
170	142.2	143.4	144.5	145.5	146.4	148.7	151.6	153.7	155.3	156.6	157.7	159.4	160.8	162.9	164.4	167.4
172	143.9	145.2	146.3	147.3	148.2	150.5	153.4	155.5	157.2	158.5	159.6	161.4	162.8	164.8	166.4	169.5
174	145.6	146.9	148.0	149.0	150.0	152.3	155.2	157.4	159.0	160.4	161.5	163.3	164.7	166.8	168.3	171.5
176	147.3	148.6	149.8	150.8	151.7	154.1	157.1	159.3	160.9	162.3	163.4	165.2	166.6	168.7	170.3	173.6
178	149.0	150.3	151.5	152.5	153.5	155.9	158.9	161.1	162.8	164.2	165.3	167.2	168.6	170.7	172.3	175.7
180	150.7	152.0	153.2	154.3	155.3	157.7	160.8	163.0	164.7	166.1	167.2	169.1	170.5	172.7	174.2	177.8
182	152.4	153.8	155.0	156.0	157.0	159.5	162.6	164.8	166.6	168.0	169.1	171.0	172.5	174.6	176.2	179.8
184	154.1	155.5	156.7	157.8	158.8	161.3	164.4	166.7	168.5	169.9	171.1	172.9	174.4	176.6	178.2	181.9
186	155.8	157.2	158.4	159.6	160.6	163.1	166.3	168.6	170.3	171.8	173.0	174.9	176.3	178.5	180.2	184.0
188	157.4	158.9	160.2	161.3	162.3	164.9	168.1	170.4	172.2	173.7	174.9	176.8	178.3	180.5	182.1	186.1
190	159.1	160.6	161.9	163.1	164.1	166.7	169.9	172.3	174.1	175.6	176.8	178.7	180.2	182.5	184.1	188.1
192	160.8	162.3	163.6	164.8	165.9	168.5	171.8	174.2	176.0	177.5	178.7	180.7	182.2	184.4	186.1	190.2
194	162.5	164.0	165.4	166.6	167.6	170.3	173.6	176.0	177.9	179.4	180.6	182.6	184.1	186.4	188.1	192.3
196	164.1	165.7	167.1	168.3	169.4	172.1	175.5	177.9	179.8	181.3	182.5	184.5	186.1	188.3	190.0	194.4
198	165.8	167.4	168.9	170.1	171.1	173.9	177.3	179.8	181.7	183.2	184.4	186.4	188.0	190.3	192.0	196.4
200	167.5	169.1	170.6	171.8	172.9	175.7	179.1	181.6	183.5	185.1	186.4	188.4	189.9	192.3	194.0	198.5
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	41.4	68.8	89.5	105.2	117.2	126.6	134.2	140.3	145.5	149.6	153.2	156.4	159.1	161.5	163.7	165.7
202	41.8	69.5	90.4	106.2	118.3	127.9	135.5	141.7	146.9	151.1	154.8	157.9	160.7	163.2	165.4	167.4
204	42.2	70.1	91.3	107.3	119.5	129.1	136.8	143.1	148.4	152.6	156.3	159.5	162.3	164.8	167.0	169.0
206	42.7	70.8	92.2	108.3	120.7	130.4	138.2	144.5	149.8	154.1	157.8	161.0	163.9	166.4	168.6	170.7
208	43.1	71.5	93.1	109.4	121.8	131.6	139.5	146.0	151.3	155.6	159.4	162.6	165.5	168.0	170.3	172.3
210	43.5	72.2	94.0	110.4	123.0	132.9	140.9	147.4	152.8	157.1	160.9	164.2	167.1	169.6	171.9	174.0
212	43.9	72.9	94.9	111.5	124.2	134.2	142.2	148.8	154.2	158.6	162.4	165.7	168.6	171.2	173.6	175.6
214	44.3	73.6	95.8	112.5	125.4	135.4	143.5	150.2	155.7	160.1	164.0	167.3	170.2	172.9	175.2	177.3
216	44.7	74.3	96.7	113.6	126.5	136.7	144.9	151.6	157.1	161.6	165.5	168.9	171.8	174.5	176.8	178.9
218	45.1	75.0	97.6	114.6	127.7	138.0	146.2	153.0	158.6	163.1	167.0	170.4	173.4	176.1	178.5	180.6
220	45.5	75.7	98.5	115.7	128.9	139.2	147.6	154.4	160.0	164.6	168.5	172.0	175.0	177.7	180.1	182.3
222	46.0	76.3	99.4	116.7	130.0	140.5	148.9	155.8	161.5	166.1	170.1	173.5	176.6	179.3	181.7	183.9
224	46.4	77.0	100.3	117.8	131.2	141.8	150.2	157.2	162.9	167.6	171.6	175.1	178.2	180.9	183.4	185.6
226	46.8	77.7	101.2	118.8	132.4	143.0	151.6	158.6	164.4	169.1	173.1	176.7	179.8	182.5	185.0	187.2
228	47.2	78.4	102.1	119.9	133.6	144.3	152.9	160.0	165.8	170.6	174.7	178.2	181.4	184.2	186.6	188.9
230	47.6	79.1	103.0	120.9	134.7	145.6	154.3	161.4	167.3	172.1	176.2	179.8	183.0	185.8	188.3	190.5
232	48.0	79.8	103.9	122.0	135.9	146.8	155.6	162.8	168.8	173.6	177.7	181.4	184.6	187.4	189.9	192.2
234	48.4	80.5	104.8	123.0	137.1	148.1	157.0	164.2	170.2	175.1	179.3	182.9	186.1	189.0	191.6	193.9
236	48.9	81.2	105.6	124.1	138.2	149.4	158.3	165.6	171.7	176.6	180.8	184.5	187.7	190.6	193.2	195.5
238	49.3	81.8	106.5	125.1	139.4	150.6	159.6	167.0	173.1	178.1	182.3	186.1	189.3	192.2	194.8	197.2
240	49.7	82.5	107.4	126.2	140.6	151.9	161.0	168.4	174.6	179.6	183.9	187.6	190.9	193.9	196.5	198.8
242	50.1	83.2	108.3	127.2	141.8	153.2	162.3	169.8	176.0	181.1	185.4	189.2	192.5	195.5	198.1	200.5
244	50.5	83.9	109.2	128.3	142.9	154.4	163.7	171.2	177.5	182.6	186.9	190.7	194.1	197.1	199.7	202.1
246	50.9	84.6	110.1	129.3	144.1	155.7	165.0	172.6	178.9	184.1	188.5	192.3	195.7	198.7	201.4	203.8
248	51.3	85.3	111.0	130.4	145.3	157.0	166.3	174.0	180.4	185.6	190.0	193.9	197.3	200.3	203.0	205.5
250	51.8	86.0	111.9	131.4	146.4	158.2	167.7	175.4	181.8	187.1	191.5	195.4	198.9	201.9	204.7	207.1
	.206	.344	.448	.526	.586	.634	.670	.702	.728	.748	.766	.782	.796	.808	.818	.828
300	62.1	103.2	134.3	157.7	175.7	189.9	201.2	210.5	218.2	224.5	229.8	234.5	238.7	242.3	245.6	248.5
	.208	.344	.448	.526	.586	.632	.672	.702	.728	.748	.766	.782	.794	.808	.818	.830
350	72.5	120.4	156.7	184.0	205.0	221.5	234.8	245.6	254.6	261.9	268.1	273.6	278.4	282.7	286.5	290.0
	.206	.342	.448	.526	.586	.634	.670	.702	.728	.748	.768	.782	.796	.808	.820	.828
400	82.8	137.5	179.1	210.3	234.3	253.2	268.3	280.7	291.0	299.3	306.5	312.7	318.2	323.1	327.5	331.4
	.208	.344	.446	.526	.586	.632	.670	.702	.726	.748	.766	.782	.796	.808	.818	.828
450	93.2	154.7	201.4	236.6	263.6	284.8	301.8	315.8	327.3	336.7	344.8	351.8	358.0	363.5	368.4	372.8
	.206	.344	.448	.526	.586	.634	.672	.700	.728	.748	.766	.782	.796	.808	.818	.828
500	103.5	171.9	223.8	262.9	292.9	316.5	335.4	350.8	363.7	374.1	383.1	390.9	397.8	403.9	409.3	414.2
	.207	.344	.448	.526	.586	.633	.671	.702	.727	.748	.766	.782	.795	.807	.819	.829
600	124.2	206.3	268.6	315.5	351.5	379.8	402.5	421.0	436.4	448.9	459.7	469.1	477.3	484.6	491.2	497.1
	.207	.344	.448	.526	.586	.633	.670	.702	.728	.748	.766	.781	.796	.808	.818	.828
700	144.9	240.7	313.4	368.1	410.1	443.1	469.5	491.2	509.2	523.7	536.3	547.2	556.9	565.4	573.0	579.9
	.207	.344	.447	.525	.585	.632	.671	.702	.727	.749	.766	.782	.795	.808	.819	.829
800	165.6	275.1	358.1	420.6	468.6	506.3	536.6	561.4	581.9	598.6	612.9	625.4	636.4	646.2	654.9	662.8
	.207	.344	.448	.526	.586	.633	.671	.701	.728	.748	.766	.782	.796	.807	.819	.828
900	186.3	309.5	402.9	473.2	527.2	569.6	603.7	631.5	654.7	673.4	689.5	703.6	716.0	726.9	736.8	745.6
	.207	.344	.447	.526	.586	.633	.671	.702	.727	.748	.766	.782	.795	.808	.818	.829
1000	207.0	343.9	447.6	525.8	585.8	632.9	670.8	701.7	727.4	748.2	766.1	781.8	795.5	807.7	818.6	828.5
	.207	.344	.448	.526	.586	.633	.670	.702	.727	.748	.766	.781	.796	.808	.819	.828
1100	227.7	378.3	492.4	578.4	644.4	696.2	737.8	771.9	800.1	823.0	842.7	859.9	875.1	888.5	900.5	911.3
	.2070	.3439	.4476	.5258	.5858	.6329	.6708	.7017	.7274	.7482	.7661	.7818	.7955	.8077	.8186	.8285
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

k																N
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	
167.5	169.1	170.6	171.8	172.9	175.7	179.1	181.6	183.5	185.1	186.4	188.4	189.9	192.3	194.0	198.5	200
169.2	170.8	172.3	173.6	174.7	177.5	181.0	183.5	185.4	187.0	188.3	190.3	191.9	194.2	196.0	200.6	202
170.8	172.5	174.0	175.3	176.4	179.3	182.8	185.3	187.3	188.9	190.2	192.2	193.8	196.2	197.9	202.7	204
172.5	174.2	175.7	177.1	178.2	181.1	184.6	187.2	189.2	190.8	192.1	194.2	195.8	198.2	199.9	204.7	206
174.2	175.9	177.4	178.8	180.0	182.9	186.5	189.1	191.1	192.7	194.0	196.1	197.7	200.1	201.9	206.8	208
175.9	177.6	179.1	180.5	181.7	184.7	188.3	190.9	193.0	194.6	195.9	198.0	199.7	202.1	203.9	208.9	210
177.5	179.2	180.8	182.3	183.5	186.5	190.2	192.8	194.9	196.5	197.8	200.0	201.6	204.1	205.8	211.0	212
179.2	180.9	182.5	184.0	185.2	188.3	192.0	194.7	196.7	198.4	199.7	201.9	203.6	206.0	207.8	213.0	214
180.9	182.6	184.2	185.7	187.0	190.1	193.8	196.5	198.6	200.3	201.7	203.8	205.5	208.0	209.8	215.1	216
182.5	184.3	185.9	187.4	188.8	191.9	195.7	198.4	200.5	202.2	203.6	205.8	207.5	209.9	211.8	217.2	218
184.2	186.0	187.6	189.1	190.5	193.7	197.5	200.3	202.4	204.1	205.5	207.7	209.4	211.9	213.7	219.3	220
185.9	187.7	189.3	190.9	192.3	195.5	199.3	202.1	204.3	206.0	207.4	209.6	211.3	213.9	215.7	221.4	222
187.6	189.4	191.1	192.6	194.0	197.3	201.2	204.0	206.2	207.9	209.3	211.6	213.3	215.8	217.7	223.4	224
189.2	191.1	192.8	194.3	195.7	199.1	203.0	205.9	208.1	209.8	211.2	213.5	215.2	217.8	219.7	225.5	226
190.9	192.8	194.5	196.0	197.5	200.8	204.9	207.7	209.9	211.7	213.2	215.4	217.2	219.8	221.7	227.6	228
192.6	194.5	196.2	197.7	199.2	202.6	206.7	209.6	211.8	213.6	215.1	217.4	219.1	221.7	223.6	229.7	230
194.3	196.2	197.9	199.5	200.9	204.4	208.5	211.5	213.7	215.5	217.0	219.3	221.1	223.7	225.6	231.8	232
195.9	197.8	199.6	201.2	202.7	206.2	210.4	213.3	215.6	217.4	218.9	221.2	223.0	225.7	227.6	233.8	234
197.6	199.5	201.3	202.9	204.4	208.0	212.2	215.2	217.5	219.3	220.8	223.2	225.0	227.6	229.6	235.9	236
199.3	201.2	203.0	204.6	206.1	209.8	214.0	217.1	219.4	221.2	222.7	225.1	226.9	229.6	231.6	238.0	238
201.0	202.9	204.7	206.3	207.9	211.6	215.9	218.9	221.3	223.1	224.7	227.1	228.9	231.6	233.5	240.1	240
202.6	204.6	206.4	208.1	209.6	213.4	217.7	220.8	223.2	225.0	226.6	229.0	230.8	233.6	235.5	242.2	242
204.3	206.3	208.1	209.8	211.3	215.2	219.6	222.7	225.1	226.9	228.5	230.9	232.8	235.5	237.5	244.3	244
206.0	208.0	209.8	211.5	213.0	217.0	221.4	224.5	226.9	228.8	230.4	232.9	234.7	237.5	239.5	246.3	246
207.7	209.7	211.5	213.2	214.8	218.8	223.2	226.4	228.8	230.8	232.3	234.8	236.7	239.5	241.5	248.4	248
209.3	211.4	213.2	214.9	216.5	220.6	225.1	228.3	230.7	232.7	234.3	236.7	238.6	241.4	243.5	250.5	250
.838	.844	.854	.860	.866	.882	.918	.934	.946	.952	.960	.970	.978	.986	.992	1.042	
251.2	253.6	255.9	257.9	259.8	264.7	271.0	275.0	278.0	280.3	282.3	285.2	287.5	290.7	293.1	302.6	300
.838	.846	.852	.860	.866	.882	.902	.932	.944	.956	.960	.972	.978	.990	.994	1.044	
293.1	295.9	298.5	300.9	303.1	308.8	316.1	321.6	325.2	328.1	330.3	333.8	336.4	340.2	342.8	354.8	350
.838	.846	.854	.860	.866	.882	.904	.920	.946	.954	.962	.974	.982	.990	.996	1.046	
335.0	338.2	341.2	343.9	346.4	352.9	361.3	367.6	372.5	375.8	378.4	382.5	385.5	389.7	392.6	407.1	400
.836	.846	.852	.860	.866	.884	.902	.918	.930	.954	.962	.974	.980	.990	.998	1.046	
376.8	380.5	383.8	386.9	389.7	397.1	406.4	413.5	419.0	423.5	426.5	431.2	434.5	439.2	442.5	459.4	450
.838	.844	.854	.860	.866	.882	.904	.920	.932	.942	.964	.974	.982	.994	1.000	1.048	
418.7	422.7	426.5	429.9	433.0	441.2	451.6	459.5	465.6	470.6	474.7	479.9	483.6	488.9	492.5	511.8	500
.837	.846	.853	.859	.866	.882	.903	.918	.931	.941	.949	.974	.983	.993	1.000	1.047	
502.4	507.3	511.8	515.8	519.6	529.4	541.9	551.3	558.7	564.7	569.6	577.3	581.9	588.2	592.5	616.5	600
.838	.845	.852	.860	.866	.882	.903	.919	.931	.941	.949	.962	.983	.995	1.002	1.049	
586.2	591.8	597.0	601.8	606.2	617.6	632.2	643.2	651.8	658.8	664.5	673.5	680.2	687.7	692.7	721.4	700
.837	.846	.853	.860	.866	.883	.904	.919	.931	.941	.949	.962	.972	.995	1.002	1.050	
669.9	676.4	682.3	687.8	692.8	705.9	722.6	735.1	744.9	752.9	759.4	769.7	777.4	787.2	792.9	826.4	800
.837	.845	.853	.860	.866	.882	.903	.919	.932	.941	.950	.962	.972	.996	1.003	1.050	
753.6	760.9	767.6	773.8	779.4	794.1	812.9	827.0	838.1	847.0	854.4	865.9	874.6	886.8	893.2	931.4	900
.838	.846	.853	.859	.866	.882	.903	.919	.931	.941	.949	.962	.971	.985	1.004	1.046	
837.4	845.5	852.9	859.7	866.0	882.3	903.2	918.9	931.2	941.1	949.3	962.1	971.7	985.3	993.6	1036.	1000
.837	.845	.853	.860	.866	.883	.903	.921	.928	.939	.947	.959	.973	.987	1.004	1.05	
921.1	930.0	938.2	945.7	952.6	970.6	993.5	1011.	1024.	1035.	1044.	1058.	1069.	1084.	1094.	1141.	1100
.8374	.8455	.8529	.8597	.8660	.8823	.9032	.9189	.9312	.9411	.9493	.9621	.9717	.9853	.9945		
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
k																

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	.595															
3	.922	1.27														
4	1.26	1.74	2.05													
5	1.57	2.21	2.60	2.88												
6	1.88	2.70	3.17	3.51	3.76											
7	2.20	3.18	3.75	4.14	4.43	4.67										
8	2.51	3.68	4.33	4.78	5.12	5.38	5.60									
9	2.83	4.17	4.92	5.43	5.81	6.10	6.35	6.55								
10	3.14	4.63	5.51	6.08	6.50	6.83	7.10	7.32	7.51							
11	3.46	5.10	6.10	6.73	7.20	7.56	7.86	8.10	8.31	8.49						
12	3.77	5.56	6.69	7.39	7.90	8.30	8.62	8.88	9.11	9.30	9.47					
13	4.08	6.02	7.29	8.05	8.61	9.04	9.38	9.67	9.91	10.1	10.3	10.5				
14	4.40	6.49	7.89	8.72	9.32	9.78	10.2	10.5	10.7	10.9	11.1	11.3	11.5			
15	4.71	6.95	8.49	9.38	10.0	10.5	10.9	11.3	11.5	11.8	12.0	12.2	12.3	12.5		
16	5.03	7.42	9.09	10.0	10.7	11.3	11.7	12.0	12.3	12.6	12.8	13.0	13.2	13.4	13.5	
17	5.34	7.88	9.66	10.7	11.5	12.0	12.5	12.8	13.2	13.4	13.7	13.9	14.1	14.2	14.4	14.5
18	5.65	8.34	10.2	11.4	12.2	12.8	13.3	13.6	14.0	14.3	14.5	14.7	14.9	15.1	15.3	15.4
19	5.97	8.81	10.8	12.1	12.9	13.5	14.0	14.4	14.8	15.1	15.4	15.6	15.8	16.0	16.2	16.3
20	6.28	9.27	11.4	12.7	13.6	14.3	14.8	15.3	15.6	15.9	16.2	16.5	16.7	16.9	17.0	17.2
21	6.60	9.73	11.9	13.4	14.3	15.0	15.6	16.1	16.4	16.8	17.1	17.3	17.5	17.7	17.9	18.1
22	6.91	10.2	12.5	14.1	15.1	15.8	16.4	16.9	17.3	17.6	17.9	18.2	18.4	18.6	18.8	19.0
23	7.22	10.7	13.1	14.7	15.8	16.6	17.2	17.7	18.1	18.5	18.8	19.0	19.3	19.5	19.7	19.9
24	7.54	11.1	13.6	15.4	16.5	17.3	18.0	18.5	18.9	19.3	19.6	19.9	20.2	20.4	20.6	20.8
25	7.85	11.6	14.2	16.1	17.2	18.1	18.8	19.3	19.8	20.1	20.5	20.8	21.0	21.3	21.5	21.7
26	8.17	12.0	14.8	16.7	17.9	18.8	19.5	20.1	20.6	21.0	21.3	21.7	21.9	22.2	22.4	22.6
27	8.48	12.5	15.3	17.4	18.7	19.6	20.3	20.9	21.4	21.8	22.2	22.5	22.8	23.1	23.3	23.5
28	8.80	13.0	15.9	18.0	19.4	20.4	21.1	21.7	22.3	22.7	23.1	23.4	23.7	24.0	24.2	24.4
29	9.11	13.4	16.5	18.7	20.1	21.1	21.9	22.6	23.1	23.5	23.9	24.3	24.6	24.8	25.1	25.3
30	9.42	13.9	17.0	19.3	20.9	21.9	22.7	23.4	23.9	24.4	24.8	25.1	25.5	25.7	26.0	26.2
31	9.74	14.4	17.6	20.0	21.6	22.7	23.5	24.2	24.8	25.2	25.7	26.0	26.3	26.6	26.9	27.1
32	10.1	14.8	18.2	20.6	22.3	23.4	24.3	25.0	25.6	26.1	26.5	26.9	27.2	27.5	27.8	28.0
33	10.4	15.3	18.8	21.2	23.0	24.2	25.1	25.8	26.4	26.9	27.4	27.8	28.1	28.4	28.7	29.0
34	10.7	15.8	19.3	21.9	23.8	25.0	25.9	26.6	27.3	27.8	28.3	28.7	29.0	29.3	29.6	29.9
35	11.0	16.2	19.9	22.5	24.5	25.7	26.7	27.5	28.1	28.7	29.1	29.5	29.9	30.2	30.5	30.8
36	11.3	16.7	20.5	23.2	25.2	26.5	27.5	28.3	29.0	29.5	30.0	30.4	30.8	31.1	31.4	31.7
37	11.6	17.1	21.0	23.8	25.9	27.3	28.3	29.1	29.8	30.4	30.9	31.3	31.7	32.0	32.3	32.6
38	11.9	17.6	21.6	24.5	26.6	28.0	29.1	29.9	30.6	31.2	31.7	32.2	32.6	32.9	33.2	33.5
39	12.3	18.1	22.2	25.1	27.3	28.8	29.9	30.8	31.5	32.1	32.6	33.1	33.5	33.8	34.2	34.4
40	12.6	18.5	22.7	25.8	28.0	29.6	30.7	31.6	32.3	32.9	33.5	34.0	34.4	34.7	35.1	35.4
41	12.9	19.0	23.3	26.4	28.7	30.3	31.5	32.4	33.2	33.8	34.4	34.8	35.3	35.6	36.0	36.3
42	13.2	19.5	23.9	27.0	29.4	31.1	32.3	33.2	34.0	34.7	35.2	35.7	36.2	36.5	36.9	37.2
43	13.5	19.9	24.4	27.7	30.1	31.9	33.1	34.0	34.8	35.5	36.1	36.6	37.0	37.4	37.8	38.1
44	13.8	20.4	25.0	28.3	30.8	32.6	33.9	34.9	35.7	36.4	37.0	37.5	37.9	38.3	38.7	39.0
45	14.1	20.9	25.6	29.0	31.5	33.4	34.7	35.7	36.5	37.2	37.8	38.4	38.8	39.3	39.6	40.0
46	14.4	21.3	26.1	29.6	32.2	34.2	35.5	36.5	37.4	38.1	38.7	39.3	39.7	40.2	40.5	40.9
47	14.8	21.8	26.7	30.3	32.9	34.9	36.3	37.3	38.2	39.0	39.6	40.1	40.6	41.1	41.5	41.8
48	15.1	22.2	27.3	30.9	33.6	35.7	37.1	38.2	39.1	39.8	40.5	41.0	41.5	42.0	42.4	42.7
49	15.4	22.7	27.8	31.5	34.3	36.5	37.9	39.0	39.9	40.7	41.3	41.9	42.4	42.9	43.3	43.6
50	15.7	23.2	28.4	32.2	35.0	37.2	38.7	39.8	40.8	41.5	42.2	42.8	43.3	43.8	44.2	44.6
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
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																.595	2
																1.27	3
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																4.67	7
																5.60	8
																6.55	9
																7.51	10
																8.49	11
																9.47	12
																10.5	13
																11.5	14
																12.5	15
																13.5	16
																14.5	17
	15.5															15.5	18
	16.4	16.6														16.6	19
	17.3	17.5	17.6													17.6	20
	18.3	18.4	18.5	18.7												18.7	21
	19.2	19.3	19.4	19.6	19.7											19.7	22
	20.1	20.2	20.4	20.5	20.6											20.7	23
	21.0	21.1	21.3	21.4	21.5											21.8	24
	21.9	22.0	22.2	22.3	22.5	22.8										22.8	25
	22.8	23.0	23.1	23.3	23.4	23.8										23.9	26
	23.7	23.9	24.0	24.2	24.3	24.7										24.9	27
	24.6	24.8	25.0	25.1	25.3	25.7										26.0	28
	25.5	25.7	25.9	26.1	26.2	26.6										27.1	29
	26.4	26.6	26.8	27.0	27.1	27.6	28.1									28.1	30
	27.4	27.6	27.7	27.9	28.1	28.5	29.1									29.2	31
	28.3	28.5	28.7	28.8	29.0	29.5	30.0									30.2	32
	29.2	29.4	29.6	29.8	30.0	30.4	31.0									31.3	33
	30.1	30.3	30.5	30.7	30.9	31.4	32.0									32.4	34
	31.0	31.3	31.5	31.6	31.8	32.3	32.9	33.4								33.4	35
	31.9	32.2	32.4	32.6	32.8	33.3	33.9	34.4								34.5	36
	32.9	33.1	33.3	33.5	33.7	34.2	34.9	35.4								35.6	37
	33.8	34.0	34.3	34.5	34.7	35.2	35.8	36.4								36.6	38
	34.7	35.0	35.2	35.4	35.6	36.1	36.8	37.4								37.7	39
	35.6	35.9	36.1	36.3	36.5	37.1	37.8	38.3	38.8							38.8	40
	36.6	36.8	37.1	37.3	37.5	38.0	38.7	39.3	39.8							39.9	41
	37.5	37.7	38.0	38.2	38.4	39.0	39.7	40.3	40.8							40.9	42
	38.4	38.7	38.9	39.2	39.4	39.9	40.7	41.3	41.8							42.0	43
	39.3	39.6	39.9	40.1	40.3	40.9	41.7	42.3	42.8							43.1	44
	40.3	40.5	40.8	41.0	41.3	41.9	42.6	43.2	43.7	44.2						44.2	45
	41.2	41.5	41.7	42.0	42.2	42.8	43.6	44.2	44.7	45.2						45.2	46
	42.1	42.4	42.7	42.9	43.2	43.8	44.6	45.2	45.7	46.2						46.3	47
	43.0	43.3	43.6	43.9	44.1	44.7	45.6	46.2	46.7	47.2						47.4	48
	44.0	44.3	44.6	44.8	45.1	45.7	46.5	47.2	47.7	48.2						48.5	49
	44.9	45.2	45.5	45.8	46.0	46.6	47.5	48.2	48.7	49.2	49.6					49.6	50
k \ N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	15.7	23.2	28.4	32.2	35.0	37.2	38.7	39.8	40.8	41.5	42.2	42.8	43.3	43.8	44.2	44.6
51	16.0	23.6	29.0	32.8	35.7	37.9	39.5	40.6	41.6	42.4	43.1	43.7	44.2	44.7	45.1	45.5
52	16.3	24.1	29.5	33.5	36.4	38.7	40.3	41.5	42.4	43.3	44.0	44.6	45.1	45.6	46.0	46.4
53	16.6	24.6	30.1	34.1	37.1	39.4	41.1	42.3	43.3	44.1	44.9	45.5	46.0	46.5	46.9	47.3
54	17.0	25.0	30.7	34.8	37.8	40.2	41.9	43.1	44.1	45.0	45.7	46.4	46.9	47.4	47.9	48.3
55	17.3	25.5	31.3	35.4	38.5	40.9	42.7	43.9	45.0	45.9	46.6	47.3	47.8	48.3	48.8	49.2
56	17.6	26.0	31.8	36.1	39.2	41.7	43.5	44.8	45.8	46.7	47.5	48.1	48.7	49.2	49.7	50.1
57	17.9	26.4	32.4	36.7	39.9	42.4	44.2	45.6	46.7	47.6	48.4	49.0	49.6	50.2	50.6	51.0
58	18.2	26.9	33.0	37.3	40.6	43.2	45.0	46.4	47.5	48.5	49.2	49.9	50.5	51.1	51.5	52.0
59	18.5	27.3	33.5	38.0	41.3	43.9	45.8	47.2	48.4	49.3	50.1	50.8	51.4	52.0	52.5	52.9
60	18.8	27.8	34.1	38.6	42.0	44.6	46.6	48.1	49.2	50.2	51.0	51.7	52.3	52.9	53.4	53.8
61	19.2	28.3	34.7	39.3	42.7	45.4	47.4	48.9	50.1	51.0	51.9	52.6	53.2	53.8	54.3	54.7
62	19.5	28.7	35.2	39.9	43.4	46.1	48.2	49.7	50.9	51.9	52.8	53.5	54.1	54.7	55.2	55.7
63	19.8	29.2	35.8	40.6	44.1	46.9	49.0	50.5	51.8	52.8	53.6	54.4	55.0	55.6	56.1	56.6
64	20.1	29.7	36.4	41.2	44.8	47.6	49.8	51.4	52.6	53.6	54.5	55.3	55.9	56.5	57.1	57.5
65	20.4	30.1	36.9	41.8	45.5	48.4	50.6	52.2	53.4	54.5	55.4	56.2	56.8	57.4	58.0	58.5
66	20.7	30.6	37.5	42.5	46.2	49.1	51.4	53.0	54.3	55.4	56.3	57.1	57.7	58.4	58.9	59.4
67	21.0	31.1	38.1	43.1	46.9	49.8	52.2	53.8	55.1	56.2	57.2	58.0	58.7	59.3	59.8	60.3
68	21.4	31.5	38.6	43.8	47.6	50.6	52.9	54.6	56.0	57.1	58.0	58.8	59.6	60.2	60.7	61.2
69	21.7	32.0	39.2	44.4	48.3	51.3	53.7	55.5	56.8	58.0	58.9	59.7	60.5	61.1	61.7	62.2
70	22.0	32.4	39.8	45.1	49.0	52.1	54.5	56.3	57.7	58.8	59.8	60.6	61.4	62.0	62.6	63.1
71	22.3	32.9	40.3	45.7	49.7	52.8	55.3	57.1	58.5	59.7	60.7	61.5	62.3	62.9	63.5	64.0
72	22.6	33.4	40.9	46.4	50.4	53.6	56.1	57.9	59.4	60.5	61.6	62.4	63.2	63.8	64.4	65.0
73	22.9	33.8	41.5	47.0	51.1	54.3	56.8	58.8	60.2	61.4	62.4	63.3	64.1	64.7	65.3	65.9
74	23.2	34.3	42.0	47.6	51.8	55.1	57.6	59.6	61.1	62.3	63.3	64.2	65.0	65.7	66.3	66.8
75	23.6	34.8	42.6	48.3	52.5	55.8	58.4	60.4	61.9	63.1	64.2	65.1	65.9	66.6	67.2	67.7
76	23.9	35.2	43.2	48.9	53.2	56.5	59.2	61.2	62.7	64.0	65.1	66.0	66.8	67.5	68.1	68.7
77	24.2	35.7	43.8	49.6	53.9	57.3	60.0	62.1	63.6	64.9	66.0	66.9	67.7	68.4	69.0	69.6
78	24.5	36.1	44.3	50.2	54.6	58.0	60.7	62.9	64.4	65.7	66.8	67.8	68.6	69.3	70.0	70.5
79	24.8	36.6	44.9	50.9	55.3	58.8	61.5	63.7	65.3	66.6	67.7	68.7	69.5	70.2	70.9	71.5
80	25.1	37.1	45.5	51.5	56.0	59.5	62.3	64.5	66.1	67.5	68.6	69.6	70.4	71.1	71.8	72.4
81	25.4	37.5	46.0	52.1	56.7	60.3	63.1	65.3	67.0	68.3	69.5	70.5	71.3	72.1	72.7	73.3
82	25.8	38.0	46.6	52.8	57.4	61.0	63.8	66.1	67.8	69.2	70.3	71.3	72.2	73.0	73.7	74.3
83	26.1	38.5	47.2	53.4	58.1	61.8	64.6	67.0	68.7	70.1	71.2	72.2	73.1	73.9	74.6	75.2
84	26.4	38.9	47.7	54.1	58.8	62.5	65.4	67.8	69.5	70.9	72.1	73.1	74.0	74.8	75.5	76.1
85	26.7	39.4	48.3	54.7	59.5	63.2	66.2	68.6	70.3	71.8	73.0	74.0	74.9	75.7	76.4	77.1
86	27.0	39.9	48.9	55.4	60.2	64.0	67.0	69.4	71.2	72.6	73.9	74.9	75.8	76.6	77.4	78.0
87	27.3	40.3	49.4	56.0	60.9	64.7	67.7	70.2	72.0	73.5	74.7	75.8	76.7	77.6	78.3	78.9
88	27.6	40.8	50.0	56.7	61.6	65.5	68.5	71.0	72.9	74.4	75.6	76.7	77.6	78.5	79.2	79.9
89	28.0	41.2	50.6	57.3	62.3	66.2	69.3	71.8	73.7	75.2	76.5	77.6	78.6	79.4	80.1	80.8
90	28.3	41.7	51.1	57.9	63.0	67.0	70.1	72.6	74.6	76.1	77.4	78.5	79.5	80.3	81.1	81.7
91	28.6	42.2	51.7	58.6	63.7	67.7	70.9	73.4	75.4	77.0	78.3	79.4	80.4	81.2	82.0	82.7
92	28.9	42.6	52.3	59.2	64.4	68.4	71.6	74.2	76.2	77.8	79.1	80.3	81.3	82.1	82.9	83.6
93	29.2	43.1	52.8	59.9	65.1	69.2	72.4	75.0	77.1	78.7	80.0	81.2	82.2	83.0	83.8	84.5
94	29.5	43.6	53.4	60.5	65.8	69.9	73.2	75.8	77.9	79.5	80.9	82.1	83.1	84.0	84.7	85.5
95	29.8	44.0	54.0	61.2	66.5	70.7	74.0	76.6	78.8	80.4	81.8	83.0	84.0	84.9	85.7	86.4
96	30.2	44.5	54.5	61.8	67.2	71.4	74.7	77.4	79.6	81.3	82.7	83.9	84.9	85.8	86.6	87.3
97	30.5	45.0	55.1	62.4	67.9	72.2	75.5	78.2	80.5	82.1	83.5	84.7	85.8	86.7	87.5	88.2
98	30.8	45.4	55.7	63.1	68.6	72.9	76.3	79.1	81.3	83.0	84.4	85.6	86.7	87.6	88.4	89.2
99	31.1	45.9	56.3	63.7	69.3	73.7	77.1	79.9	82.1	83.9	85.3	86.5	87.6	88.5	89.4	90.1
100	31.4	46.3	56.8	64.4	70.0	74.4	77.9	80.7	83.0	84.7	86.2	87.4	88.5	89.5	90.3	91.0
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
50	44.9	45.2	45.5	45.8	46.0	46.6	47.5	48.2	48.7	49.2	49.6					49.6
51	45.8	46.1	46.4	46.7	47.0	47.6	48.5	49.2	49.7	50.2	50.6					50.6
52	46.8	47.1	47.4	47.7	47.9	48.6	49.5	50.1	50.7	51.2	51.6					51.7
53	47.7	48.0	48.3	48.6	48.9	49.5	50.4	51.1	51.7	52.2	52.6					52.8
54	48.6	49.0	49.3	49.5	49.8	50.5	51.4	52.1	52.7	53.2	53.6					53.9
55	49.6	49.9	50.2	50.5	50.8	51.5	52.4	53.1	53.7	54.2	54.6					55.0
56	50.5	50.8	51.1	51.4	51.7	52.4	53.4	54.1	54.7	55.2	55.6					56.1
57	51.4	51.8	52.1	52.4	52.7	53.4	54.3	55.1	55.7	56.2	56.6					57.1
58	52.4	52.7	53.0	53.3	53.6	54.4	55.3	56.1	56.7	57.2	57.6					58.2
59	53.3	53.6	54.0	54.3	54.6	55.3	56.3	57.1	57.7	58.2	58.7					59.3
60	54.2	54.6	54.9	55.2	55.5	56.3	57.3	58.1	58.7	59.2	59.7	60.4				60.4
61	55.2	55.5	55.9	56.2	56.5	57.2	58.3	59.0	59.7	60.2	60.7	61.4				61.5
62	56.1	56.5	56.8	57.1	57.4	58.2	59.2	60.0	60.7	61.2	61.7	62.4				62.6
63	57.0	57.4	57.8	58.1	58.4	59.2	60.2	61.0	61.7	62.2	62.7	63.5				63.7
64	58.0	58.3	58.7	59.0	59.3	60.1	61.2	62.0	62.7	63.2	63.7	64.5				64.8
65	58.9	59.3	59.7	60.0	60.3	61.1	62.2	63.0	63.7	64.2	64.7	65.5				65.8
66	59.8	60.2	60.6	60.9	61.3	62.1	63.2	64.0	64.7	65.3	65.7	66.5				66.9
67	60.8	61.2	61.5	61.9	62.2	63.0	64.1	65.0	65.7	66.3	66.8	67.6				68.0
68	61.7	62.1	62.5	62.8	63.2	64.0	65.1	66.0	66.7	67.3	67.8	68.6				69.1
69	62.6	63.1	63.4	63.8	64.1	65.0	66.1	67.0	67.7	68.3	68.8	69.6				70.2
70	63.6	64.0	64.4	64.7	65.1	65.9	67.1	68.0	68.7	69.3	69.8	70.6	71.3			71.3
71	64.5	64.9	65.3	65.7	66.0	66.9	68.1	69.0	69.7	70.3	70.8	71.7	72.3			72.4
72	65.4	65.9	66.3	66.7	67.0	67.9	69.1	70.0	70.7	71.3	71.8	72.7	73.3			73.5
73	66.4	66.8	67.2	67.6	68.0	68.9	70.0	71.0	71.7	72.3	72.8	73.7	74.4			74.6
74	67.3	67.8	68.2	68.6	68.9	69.8	71.0	71.9	72.7	73.3	73.9	74.7	75.4			75.6
75	68.3	68.7	69.1	69.5	69.9	70.8	72.0	72.9	73.7	74.3	74.9	75.7	76.4			76.7
76	69.2	69.7	70.1	70.5	70.8	71.8	73.0	73.9	74.7	75.3	75.9	76.8	77.5			77.8
77	70.1	70.6	71.0	71.4	71.8	72.7	74.0	74.9	75.7	76.4	76.9	77.8	78.5			78.9
78	71.1	71.5	72.0	72.4	72.7	73.7	75.0	75.9	76.7	77.4	77.9	78.8	79.5			80.0
79	72.0	72.5	72.9	73.3	73.7	74.7	75.9	76.9	77.7	78.4	78.9	79.8	80.6			81.1
80	72.9	73.4	73.9	74.3	74.7	75.6	76.9	77.9	78.7	79.4	80.0	80.9	81.6			82.2
81	73.9	74.4	74.8	75.2	75.6	76.6	77.9	78.9	79.7	80.4	81.0	81.9	82.6			83.3
82	74.8	75.3	75.8	76.2	76.6	77.6	78.9	79.9	80.7	81.4	82.0	82.9	83.7			84.4
83	75.8	76.3	76.7	77.1	77.5	78.6	79.9	80.9	81.7	82.4	83.0	84.0	84.7			85.5
84	76.7	77.2	77.7	78.1	78.5	79.5	80.9	81.9	82.7	83.4	84.0	85.0	85.7			86.6
85	77.6	78.1	78.6	79.1	79.5	80.5	81.9	82.9	83.7	84.4	85.0	86.0	86.8			87.7
86	78.6	79.1	79.6	80.0	80.4	81.5	82.8	83.9	84.7	85.5	86.1	87.0	87.8			88.8
87	79.5	80.0	80.5	81.0	81.4	82.4	83.8	84.9	85.8	86.5	87.1	88.1	88.8			89.9
88	80.4	81.0	81.5	81.9	82.3	83.4	84.8	85.9	86.8	87.5	88.1	89.1	89.9			91.0
89	81.4	81.9	82.4	82.9	83.3	84.4	85.8	86.9	87.8	88.5	89.1	90.1	90.9			92.1
90	82.3	82.9	83.4	83.8	84.3	85.4	86.8	87.9	88.8	89.5	90.1	91.1	91.9	93.1		93.1
91	83.3	83.8	84.3	84.8	85.2	86.3	87.8	88.9	89.8	90.5	91.1	92.2	93.0	94.2		94.2
92	84.2	84.8	85.3	85.8	86.2	87.3	88.8	89.9	90.8	91.5	92.2	93.2	94.0	95.2		95.3
93	85.1	85.7	86.2	86.7	87.1	88.3	89.8	90.9	91.8	92.5	93.2	94.2	95.0	96.3		96.4
94	86.1	86.7	87.2	87.7	88.1	89.3	90.7	91.9	92.8	93.6	94.2	95.3	96.1	97.3		97.5
95	87.0	87.6	88.1	88.6	89.1	90.2	91.7	92.9	93.8	94.6	95.2	96.3	97.1	98.4		98.6
96	88.0	88.6	89.1	89.6	90.0	91.2	92.7	93.9	94.8	95.6	96.2	97.3	98.2	99.4		99.7
97	88.9	89.5	90.0	90.5	91.0	92.2	93.7	94.9	95.8	96.6	97.3	98.3	99.2	100.5		100.8
98	89.8	90.4	91.0	91.5	92.0	93.2	94.7	95.9	96.8	97.6	98.3	99.4	100.2	101.5		101.9
99	90.8	91.4	91.9	92.5	92.9	94.1	95.7	96.9	97.8	98.6	99.3	100.4	101.3	102.6		103.0
100	91.7	92.3	92.9	93.4	93.9	95.1	96.7	97.9	98.8	99.6	100.3	101.4	102.3	103.6		104.1
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	31.4	46.3	56.8	64.4	70.0	74.4	77.9	80.7	83.0	84.7	86.2	87.4	88.5	89.5	90.3	91.0
102	32.0	47.3	58.0	65.7	71.4	75.9	79.4	82.3	84.6	86.4	87.9	89.2	90.3	91.3	92.1	92.9
104	32.7	48.2	59.1	67.0	72.8	77.4	81.0	83.9	86.3	88.2	89.7	91.0	92.1	93.1	94.0	94.8
106	33.3	49.1	60.2	68.2	74.2	78.9	82.5	85.5	88.0	89.9	91.4	92.8	93.9	95.0	95.8	96.6
108	33.9	50.1	61.4	69.5	75.6	80.4	84.1	87.1	89.6	91.6	93.2	94.6	95.7	96.8	97.7	98.5
110	34.6	51.0	62.5	70.8	77.0	81.8	85.6	88.7	91.3	93.3	95.0	96.3	97.6	98.6	99.5	100.4
112	35.2	51.9	63.6	72.1	78.4	83.3	87.2	90.3	92.9	95.0	96.7	98.1	99.4	100.4	101.4	102.2
114	35.8	52.8	64.8	73.4	79.8	84.8	88.8	92.0	94.6	96.7	98.5	99.9	101.2	102.3	103.2	104.1
116	36.4	53.8	65.9	74.7	81.2	86.3	90.3	93.6	96.3	98.4	100.2	101.7	103.0	104.1	105.1	106.0
118	37.1	54.7	67.0	76.0	82.6	87.8	91.9	95.2	97.9	100.1	102.0	103.5	104.8	105.9	106.9	107.8
120	37.7	55.6	68.2	77.3	84.0	89.3	93.4	96.8	99.6	101.8	103.7	105.3	106.6	107.8	108.8	109.7
122	38.3	56.5	69.3	78.5	85.4	90.8	95.0	98.4	101.2	103.5	105.4	107.0	108.4	109.6	110.6	111.6
124	39.0	57.5	70.5	79.8	86.8	92.3	96.5	100.0	102.9	105.2	107.2	108.8	110.2	111.4	112.5	113.4
126	39.6	58.4	71.6	81.1	88.2	93.7	98.1	101.6	104.6	106.9	108.9	110.6	112.0	113.3	114.3	115.3
128	40.2	59.3	72.7	82.4	89.6	95.2	99.7	103.3	106.2	108.6	110.6	112.4	113.8	115.1	116.2	117.2
130	40.8	60.2	73.9	83.7	91.0	96.7	101.2	104.9	107.9	110.3	112.4	114.2	115.6	116.9	118.0	119.0
132	41.5	61.2	75.0	85.0	92.4	98.2	102.8	106.5	109.5	112.0	114.1	115.9	117.4	118.7	119.9	120.9
134	42.1	62.1	76.1	86.3	93.8	99.7	104.3	108.1	111.2	113.7	115.8	117.7	119.2	120.6	121.7	122.8
136	42.7	63.0	77.3	87.6	95.2	101.2	105.9	109.7	112.9	115.4	117.5	119.4	121.0	122.4	123.6	124.6
138	43.3	64.0	78.4	88.8	96.6	102.7	107.4	111.3	114.5	117.1	119.3	121.2	122.8	124.2	125.4	126.5
140	44.0	64.9	79.5	90.1	98.0	104.2	109.0	112.9	116.2	118.8	121.0	122.9	124.7	126.1	127.3	128.4
142	44.6	65.8	80.7	91.4	99.5	105.6	110.6	114.5	117.8	120.5	122.7	124.7	126.4	127.9	129.1	130.2
144	45.2	66.7	81.8	92.7	100.9	107.1	112.1	116.2	119.5	122.2	124.5	126.5	128.2	129.7	131.0	132.1
146	45.9	67.7	83.0	94.0	102.3	108.6	113.7	117.8	121.1	123.9	126.2	128.2	130.0	131.5	132.8	134.0
148	46.5	68.6	84.1	95.3	103.7	110.1	115.2	119.4	122.8	125.6	127.9	130.0	131.8	133.4	134.7	135.8
150	47.1	69.5	85.2	96.6	105.1	111.6	116.8	121.0	124.5	127.2	129.6	131.7	133.6	135.2	136.5	137.7
152	47.7	70.4	86.4	97.9	106.5	113.1	118.3	122.6	126.1	128.9	131.4	133.5	135.3	137.0	138.4	139.6
154	48.4	71.4	87.5	99.1	107.9	114.6	119.9	124.2	127.8	130.6	133.1	135.2	137.1	138.8	140.2	141.4
156	49.0	72.3	88.6	100.4	109.3	116.1	121.5	125.8	129.4	132.3	134.8	137.0	138.9	140.6	142.1	143.3
158	49.6	73.2	89.8	101.7	110.7	117.6	123.0	127.4	131.1	134.0	136.6	138.7	140.7	142.4	143.9	145.2
160	50.3	74.2	90.9	103.0	112.1	119.0	124.6	129.1	132.8	135.7	138.3	140.5	142.5	144.2	145.7	147.0
162	50.9	75.1	92.0	104.3	113.5	120.5	126.1	130.7	134.4	137.4	140.0	142.3	144.2	146.0	147.6	148.9
164	51.5	76.0	93.2	105.6	114.9	122.0	127.7	132.3	136.1	139.1	141.7	144.0	146.0	147.8	149.4	150.7
166	52.1	76.9	94.3	106.9	116.3	123.5	129.2	133.9	137.7	140.8	143.5	145.8	147.8	149.6	151.2	152.6
168	52.8	77.9	95.5	108.2	117.7	125.0	130.8	135.5	139.4	142.5	145.2	147.5	149.6	151.4	153.0	154.5
170	53.4	78.8	96.6	109.4	119.1	126.5	132.4	137.1	141.1	144.2	146.9	149.3	151.4	153.2	154.9	156.3
172	54.0	79.7	97.7	110.7	120.5	128.0	133.9	138.7	142.7	145.9	148.7	151.0	153.1	155.0	156.7	158.2
174	54.7	80.6	98.9	112.0	121.9	129.5	135.5	140.4	144.4	147.6	150.4	152.8	154.9	156.8	158.5	160.0
176	55.3	81.6	100.0	113.3	123.3	130.9	137.0	142.0	146.0	149.3	152.1	154.6	156.7	158.6	160.3	161.9
178	55.9	82.5	101.1	114.6	124.7	132.4	138.6	143.6	147.7	151.0	153.8	156.3	158.5	160.4	162.1	163.7
180	56.5	83.4	102.3	115.9	126.1	133.9	140.1	145.2	149.4	152.7	155.6	158.1	160.3	162.2	164.0	165.5
182	57.2	84.3	103.4	117.2	127.5	135.4	141.7	146.8	151.0	154.4	157.3	159.8	162.0	164.0	165.8	167.4
184	57.8	85.3	104.5	118.5	128.9	136.9	143.3	148.4	152.7	156.1	159.0	161.6	163.8	165.8	167.6	169.2
186	58.4	86.2	105.7	119.7	130.3	138.4	144.8	150.0	154.3	157.8	160.8	163.3	165.6	167.6	169.4	171.0
188	59.1	87.1	106.8	121.0	131.7	139.9	146.4	151.6	156.0	159.5	162.5	165.1	167.4	169.4	171.2	172.9
190	59.7	88.1	108.0	122.3	133.1	141.4	147.9	153.3	157.7	161.2	164.2	166.8	169.2	171.2	173.1	174.7
192	60.3	89.0	109.1	123.6	134.5	142.8	149.5	154.9	159.3	162.9	165.9	168.6	170.9	173.0	174.9	176.6
194	60.9	89.9	110.2	124.9	135.9	144.3	151.0	156.5	161.0	164.6	167.7	170.4	172.7	174.8	176.7	178.4
196	61.6	90.8	111.4	126.2	137.3	145.8	152.6	158.1	162.6	166.3	169.4	172.1	174.5	176.6	178.5	180.2
198	62.2	91.8	112.5	127.5	138.7	147.3	154.2	159.7	164.3	168.0	171.1	173.9	176.3	178.4	180.4	182.1
200	62.8	92.7	113.6	128.8	140.1	148.8	155.7	161.3	166.0	169.7	172.9	175.6	178.1	180.2	182.2	183.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
100	91.7	92.3	92.9	93.4	93.9	95.1	96.7	97.9	98.8	99.6	100.3	101.4	102.3	103.6		104.1
102	93.6	94.2	94.8	95.3	95.8	97.1	98.7	99.9	100.9	101.7	102.4	103.5	104.4	105.7		106.3
104	95.5	96.1	96.7	97.2	97.7	99.0	100.6	101.9	102.9	103.7	104.4	105.5	106.4	107.8		108.5
106	97.4	98.0	98.6	99.2	99.7	101.0	102.6	103.9	104.9	105.7	106.5	107.6	108.5	109.9		110.7
108	99.2	99.9	100.5	101.1	101.6	102.9	104.6	105.9	106.9	107.8	108.5	109.7	110.6	112.0		112.9
110	101.1	101.8	102.4	103.0	103.5	104.9	106.6	107.9	108.9	109.8	110.5	111.7	112.7	114.1	115.1	115.1
112	103.0	103.7	104.3	104.9	105.4	106.8	108.6	109.9	111.0	111.8	112.6	113.8	114.7	116.2	117.2	117.3
114	104.9	105.6	106.2	106.8	107.4	108.8	110.5	111.9	113.0	113.9	114.6	115.9	116.8	118.3	119.3	119.5
116	106.8	107.5	108.1	108.7	109.3	110.7	112.5	113.9	115.0	115.9	116.7	117.9	118.9	120.4	121.4	121.7
118	108.7	109.4	110.1	110.7	111.2	112.7	114.5	115.9	117.0	117.9	118.7	120.0	121.0	122.5	123.5	123.9
120	110.5	111.3	112.0	112.6	113.2	114.6	116.5	117.9	119.0	120.0	120.8	122.0	123.0	124.5	125.6	126.1
122	112.4	113.2	113.9	114.5	115.1	116.6	118.5	119.9	121.1	122.0	122.8	124.1	125.1	126.6	127.7	128.3
124	114.3	115.1	115.8	116.4	117.0	118.5	120.5	121.9	123.1	124.1	124.9	126.2	127.2	128.7	129.9	130.5
126	116.2	117.0	117.7	118.3	118.9	120.5	122.4	123.9	125.1	126.1	126.9	128.2	129.3	130.8	132.0	132.7
128	118.1	118.9	119.6	120.3	120.9	122.4	124.4	125.9	127.1	128.1	129.0	130.3	131.4	132.9	134.1	134.9
130	120.0	120.8	121.5	122.2	122.8	124.4	126.4	128.0	129.2	130.2	131.0	132.4	133.4	135.0	136.2	137.1
132	121.8	122.7	123.4	124.1	124.7	126.3	128.4	130.0	131.2	132.2	133.1	134.4	135.5	137.1	138.3	139.3
134	123.7	124.6	125.3	126.0	126.7	128.3	130.4	132.0	133.2	134.2	135.1	136.5	137.6	139.2	140.4	141.5
136	125.6	126.5	127.2	127.9	128.6	130.3	132.4	134.0	135.2	136.3	137.2	138.6	139.7	141.3	142.5	143.7
138	127.5	128.3	129.1	129.9	130.5	132.2	134.4	136.0	137.3	138.3	139.2	140.6	141.8	143.4	144.6	145.9
140	129.4	130.2	131.0	131.8	132.4	134.2	136.4	138.0	139.3	140.4	141.3	142.7	143.8	145.5	146.8	148.1
142	131.2	132.1	133.0	133.7	134.4	136.1	138.3	140.0	141.3	142.4	143.3	144.8	145.9	147.6	148.9	150.3
144	133.1	134.0	134.9	135.6	136.3	138.1	140.3	142.0	143.4	144.4	145.4	146.8	148.0	149.7	151.0	152.5
146	135.0	135.9	136.8	137.5	138.2	140.0	142.3	144.0	145.4	146.5	147.4	148.9	150.1	151.8	153.1	154.7
148	136.9	137.8	138.7	139.5	140.2	142.0	144.3	146.0	147.4	148.5	149.5	151.0	152.2	153.9	155.2	156.9
150	138.8	139.7	140.6	141.4	142.1	144.0	146.3	148.1	149.4	150.6	151.5	153.1	154.3	156.0	157.3	159.1
152	140.6	141.6	142.5	143.3	144.0	145.9	148.3	150.1	151.5	152.6	153.6	155.1	156.3	158.1	159.4	161.3
154	142.5	143.5	144.4	145.2	146.0	147.9	150.3	152.1	153.5	154.7	155.6	157.2	158.4	160.2	161.6	163.5
156	144.4	145.4	146.3	147.1	147.9	149.8	152.3	154.1	155.5	156.7	157.7	159.3	160.5	162.3	163.7	165.7
158	146.3	147.3	148.2	149.1	149.8	151.8	154.3	156.1	157.6	158.7	159.7	161.3	162.6	164.4	165.8	167.9
160	148.2	149.2	150.1	151.0	151.8	153.7	156.2	158.1	159.6	160.8	161.8	163.4	164.7	166.5	167.9	170.2
162	150.0	151.1	152.0	152.9	153.7	155.7	158.2	160.1	161.6	162.8	163.9	165.5	166.8	168.7	170.0	172.4
164	151.9	153.0	153.9	154.8	155.6	157.7	160.2	162.1	163.7	164.9	165.9	167.6	168.8	170.8	172.1	174.6
166	153.8	154.9	155.9	156.7	157.5	159.6	162.2	164.2	165.7	166.9	168.0	169.6	170.9	172.9	174.3	176.8
168	155.7	156.8	157.8	158.7	159.5	161.6	164.2	166.2	167.7	169.0	170.0	171.7	173.0	175.0	176.4	179.0
170	157.6	158.7	159.7	160.6	161.4	163.5	166.2	168.2	169.7	171.0	172.1	173.8	175.1	177.1	178.5	181.2
172	159.4	160.6	161.6	162.5	163.3	165.5	168.2	170.2	171.8	173.1	174.1	175.9	177.2	179.2	180.6	183.4
174	161.3	162.5	163.5	164.4	165.3	167.4	170.2	172.2	173.8	175.1	176.2	177.9	179.3	181.3	182.7	185.6
176	163.2	164.4	165.4	166.3	167.2	169.4	172.2	174.2	175.8	177.2	178.3	180.0	181.4	183.4	184.8	187.8
178	165.1	166.2	167.3	168.3	169.1	171.4	174.2	176.3	177.9	179.2	180.3	182.1	183.4	185.5	187.0	190.0
180	167.0	168.1	169.2	170.2	171.1	173.3	176.2	178.3	179.9	181.2	182.4	184.2	185.5	187.6	189.1	192.2
182	168.8	170.0	171.1	172.1	173.0	175.3	178.2	180.3	181.9	183.3	184.4	186.2	187.6	189.7	191.2	194.4
184	170.7	171.9	173.0	174.0	174.9	177.2	180.1	182.3	184.0	185.3	186.5	188.3	189.7	191.8	193.3	196.6
186	172.5	173.8	174.9	175.9	176.9	179.2	182.1	184.3	186.0	187.4	188.5	190.4	191.8	193.9	195.4	198.9
188	174.4	175.7	176.8	177.9	178.8	181.2	184.1	186.3	188.0	189.4	190.6	192.5	193.9	196.0	197.6	201.1
190	176.2	177.6	178.7	179.8	180.7	183.1	186.1	188.3	190.1	191.5	192.7	194.5	196.0	198.1	199.7	203.3
192	178.1	179.5	180.6	181.7	182.6	185.1	188.1	190.4	192.1	193.5	194.7	196.6	198.1	200.2	201.8	205.5
194	179.9	181.3	182.5	183.6	184.6	187.0	190.1	192.4	194.2	195.6	196.8	198.7	200.2	202.3	203.9	207.7
196	181.8	183.2	184.5	185.5	186.5	189.0	192.1	194.4	196.2	197.6	198.8	200.8	202.2	204.4	206.0	209.9
198	183.6	185.1	186.4	187.4	188.4	191.0	194.1	196.4	198.2	199.7	200.9	202.8	204.3	206.6	208.2	212.1
200	185.5	186.9	188.3	189.4	190.4	192.9	196.1	198.4	200.3	201.7	203.0	204.9	206.4	208.7	210.3	214.3
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k = 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	62.8	92.7	113.6	128.8	140.1	148.8	155.7	161.3	166.0	169.7	172.9	175.6	178.1	180.2	182.2	183.9
202	63.5	93.6	114.8	130.0	141.5	150.3	157.3	162.9	167.6	171.4	174.6	177.4	179.9	182.0	184.0	185.8
204	64.1	94.5	115.9	131.3	142.9	151.8	158.8	164.6	169.3	173.1	176.3	179.1	181.6	183.8	185.8	187.6
206	64.7	95.5	117.0	132.6	144.3	153.3	160.4	166.2	170.9	174.8	178.0	180.9	183.4	185.6	187.6	189.4
208	65.3	96.4	118.2	133.9	145.7	154.8	161.9	167.8	172.6	176.5	179.8	182.7	185.2	187.4	189.5	191.3
210	66.0	97.3	119.3	135.2	147.1	156.2	163.5	169.4	174.3	178.1	181.5	184.4	187.0	189.3	191.3	193.1
212	66.6	98.3	120.5	136.5	148.5	157.7	165.1	171.0	175.9	179.8	183.2	186.2	188.8	191.1	193.1	195.0
214	67.2	99.2	121.6	137.8	149.9	159.2	166.6	172.6	177.6	181.5	185.0	187.9	190.5	192.9	194.9	196.8
216	67.9	100.1	122.7	139.1	151.3	160.7	168.2	174.2	179.2	183.2	186.7	189.7	192.3	194.7	196.8	198.6
218	68.5	101.0	123.9	140.3	152.7	162.2	169.7	175.8	180.9	184.9	188.4	191.4	194.1	196.5	198.6	200.5
220	69.1	102.0	125.0	141.6	154.1	163.7	171.3	177.5	182.6	186.6	190.1	193.2	195.9	198.3	200.4	202.3
222	69.7	102.9	126.1	142.9	155.5	165.2	172.9	179.1	184.2	188.3	191.9	194.9	197.7	200.1	202.2	204.2
224	70.4	103.8	127.3	144.2	156.9	166.7	174.4	180.7	185.9	190.0	193.6	196.7	199.4	201.9	204.0	206.0
226	71.0	104.7	128.4	145.5	158.3	168.1	176.0	182.3	187.5	191.7	195.3	198.5	201.2	203.7	205.9	207.8
228	71.6	105.7	129.5	146.8	159.7	169.6	177.5	183.9	189.2	193.4	197.1	200.2	203.0	205.5	207.7	209.7
230	72.2	106.6	130.7	148.1	161.1	171.1	179.1	185.5	190.9	195.1	198.8	202.0	204.8	207.3	209.5	211.5
232	72.9	107.5	131.8	149.4	162.5	172.6	180.6	187.1	192.5	196.8	200.5	203.7	206.6	209.1	211.3	213.4
234	73.5	108.4	133.0	150.7	163.9	174.1	182.2	188.8	194.2	198.5	202.2	205.5	208.3	210.9	213.1	215.2
236	74.1	109.4	134.1	151.9	165.3	175.6	183.8	190.4	195.8	200.2	204.0	207.2	210.1	212.7	215.0	217.0
238	74.8	110.3	135.2	153.2	166.7	177.1	185.3	192.0	197.5	201.9	205.7	209.0	211.9	214.5	216.8	218.9
240	75.4	111.2	136.4	154.5	168.1	178.6	186.9	193.6	199.2	203.6	207.4	210.8	213.7	216.3	218.6	220.7
242	76.0	112.2	137.5	155.8	169.5	180.0	188.4	195.2	200.8	205.3	209.2	212.5	215.5	218.1	220.4	222.5
244	76.6	113.1	138.6	157.1	170.9	181.5	190.0	196.8	202.5	207.0	210.9	214.3	217.2	219.9	222.3	224.4
246	77.3	114.0	139.8	158.4	172.3	183.0	191.5	198.4	204.1	208.7	212.6	216.0	219.0	221.7	224.1	226.2
248	77.9	114.9	140.9	159.7	173.7	184.5	193.1	200.0	205.8	210.4	214.3	217.8	220.8	223.5	225.9	228.1
250	78.5	115.9	142.0	161.0	175.1	186.0	194.7	201.7	207.4	212.1	216.1	219.5	222.6	225.3	227.7	229.9
	.314	*.462*	*.570*	*.642*	*.700*	*.744*	*.778*	*.806*	*.830*	*.848*	*.864*	*.878*	*.890*	*.902*	*.912*	*.920*
300	94.2	139.0	170.5	193.1	210.1	223.2	233.6	242.0	248.9	254.5	259.3	263.4	267.1	270.4	273.3	275.9
	.314	*.464*	*.568*	*.644*	*.700*	*.744*	*.778*	*.806*	*.830*	*.848*	*.864*	*.880*	*.890*	*.900*	*.910*	*.920*
350	109.9	162.2	198.9	225.3	245.1	260.4	272.5	282.3	290.4	296.9	302.5	307.4	311.6	315.4	318.8	321.9
	.314	*.464*	*.568*	*.644*	*.700*	*.744*	*.778*	*.808*	*.830*	*.848*	*.864*	*.878*	*.890*	*.902*	*.912*	*.918*
400	125.6	185.4	227.3	257.5	280.1	297.6	311.4	322.7	331.9	339.3	345.7	351.3	356.1	360.5	364.4	367.8
	.316	*.464*	*.568*	*.644*	*.702*	*.744*	*.780*	*.806*	*.830*	*.848*	*.864*	*.878*	*.892*	*.900*	*.910*	*.920*
450	141.4	208.6	255.7	289.7	315.2	334.8	350.4	363.0	373.4	381.7	388.9	395.2	400.7	405.5	409.9	413.8
	.314	*.462*	*.568*	*.644*	*.700*	*.744*	*.778*	*.806*	*.830*	*.850*	*.864*	*.878*	*.890*	*.902*	*.910*	*.920*
500	157.1	231.7	284.1	321.9	350.2	372.0	389.3	403.3	414.9	424.2	432.1	439.1	445.2	450.6	455.4	459.8
	.314	*.464*	*.568*	*.644*	*.700*	*.744*	*.779*	*.807*	*.830*	*.848*	*.865*	*.878*	*.890*	*.901*	*.911*	*.920*
600	188.5	278.1	340.9	386.3	420.2	446.4	467.2	484.0	497.9	509.0	518.6	526.9	534.2	540.7	546.5	551.8
	.314	*.463*	*.568*	*.644*	*.700*	*.744*	*.778*	*.806*	*.830*	*.848*	*.864*	*.878*	*.891*	*.901*	*.911*	*.919*
700	219.9	324.4	397.7	450.7	490.2	520.8	545.0	564.6	580.9	593.8	605.0	614.7	623.3	630.8	637.6	643.7
	.314	*.464*	*.569*	*.643*	*.701*	*.744*	*.779*	*.807*	*.829*	*.849*	*.864*	*.878*	*.890*	*.902*	*.911*	*.920*
800	251.3	370.8	454.6	515.0	560.3	595.2	622.9	645.3	663.8	678.7	691.4	702.5	712.3	721.0	728.7	735.7
	.314	*.463*	*.568*	*.644*	*.700*	*.744*	*.778*	*.807*	*.830*	*.848*	*.864*	*.878*	*.890*	*.901*	*.911*	*.920*
900	282.7	417.1	511.4	579.4	630.3	669.6	700.7	726.0	746.8	763.5	777.8	790.3	801.3	811.1	819.8	827.7
	.314	*.464*	*.568*	*.644*	*.701*	*.744*	*.779*	*.806*	*.830*	*.848*	*.865*	*.879*	*.891*	*.901*	*.911*	*.919*
1000	314.1	463.5	568.2	643.8	700.4	744.0	778.6	806.6	829.8	848.3	864.3	878.2	890.4	901.2	910.9	919.6
	.314	*.463*	*.568*	*.644*	*.700*	*.744*	*.779*	*.807*	*.830*	*.849*	*.864*	*.878*	*.890*	*.901*	*.911*	*.924*
1100	345.5	509.8	625.0	708.2	770.4	818.4	856.5	887.3	912.8	933.2	950.7	966.0	979.4	991.3	1002.	1012.
	.3141	*.4635*	*.5682*	*.6438*	*.7004*	*.7440*	*.7786*	*.8066*	*.8298*	*.8483*	*.8643*	*.8782*	*.8904*	*.9012*	*.9109*	*.9196*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k

N	k = 18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
200	185.5	186.9	188.3	189.4	190.4	192.9	196.1	198.4	200.3	201.7	203.0	204.9	206.4	208.7	210.3	214.3
202	187.4	188.8	190.1	191.3	192.3	194.9	198.1	200.5	202.3	203.8	205.0	207.0	208.5	210.8	212.4	216.5
204	189.2	190.7	192.0	193.2	194.2	196.8	200.1	202.5	204.3	205.8	207.1	209.1	210.6	212.9	214.5	218.7
206	191.1	192.6	193.9	195.1	196.1	198.8	202.1	204.5	206.4	207.9	209.1	211.2	212.7	215.0	216.6	221.0
208	192.9	194.4	195.8	197.0	198.1	200.7	204.1	206.5	208.4	209.9	211.2	213.2	214.8	217.1	218.8	223.2
210	194.8	196.3	197.7	198.9	200.0	202.7	206.1	208.5	210.4	212.0	213.3	215.3	216.9	219.2	220.9	225.4
212	196.6	198.2	199.6	200.8	201.9	204.7	208.0	210.5	212.5	214.0	215.3	217.4	219.0	221.3	223.0	227.6
214	198.5	200.0	201.4	202.7	203.9	206.6	210.0	212.6	214.5	216.1	217.4	219.5	221.1	223.4	225.1	229.8
216	200.3	201.9	203.3	204.6	205.8	208.6	212.0	214.6	216.5	218.1	219.5	221.5	223.2	225.5	227.2	232.0
218	202.2	203.8	205.2	206.5	207.7	210.5	214.0	216.6	218.6	220.2	221.5	223.6	225.2	227.6	229.4	234.2
220	204.1	205.6	207.1	208.4	209.6	212.5	216.0	218.6	220.6	222.2	223.6	225.7	227.3	229.8	231.5	236.4
222	205.9	207.5	209.0	210.3	211.6	214.4	218.0	220.6	222.7	224.3	225.6	227.8	229.4	231.9	233.6	238.6
224	207.8	209.4	210.9	212.2	213.5	216.4	220.0	222.7	224.7	226.3	227.7	229.9	231.5	234.0	235.7	240.9
226	209.6	211.2	212.7	214.1	215.4	218.4	222.0	224.7	226.7	228.4	229.8	231.9	233.6	236.1	237.9	243.1
228	211.5	213.1	214.6	216.0	217.3	220.3	224.0	226.7	228.8	230.4	231.8	234.0	235.7	238.2	240.0	245.3
230	213.3	215.0	216.5	217.9	219.2	222.3	226.0	228.7	230.8	232.5	233.9	236.1	237.8	240.3	242.1	247.5
232	215.2	216.9	218.4	219.8	221.1	224.2	228.0	230.7	232.8	234.5	236.0	238.2	239.9	242.4	244.2	249.7
234	217.0	218.7	220.3	221.7	223.0	226.2	230.0	232.7	234.9	236.6	238.0	240.3	242.0	244.5	246.3	251.9
236	218.9	220.6	222.1	223.6	224.9	228.1	232.0	234.8	236.9	238.7	240.1	242.3	244.1	246.6	248.5	254.1
238	220.8	222.5	224.0	225.5	226.8	230.1	234.0	236.8	239.0	240.7	242.1	244.4	246.2	248.7	250.6	256.3
240	222.6	224.3	225.9	227.4	228.7	232.1	236.0	238.8	241.0	242.8	244.2	246.5	248.3	250.9	252.7	258.6
242	224.5	226.2	227.8	229.3	230.6	234.0	238.0	240.8	243.0	244.8	246.3	248.6	250.4	253.0	254.8	260.8
244	226.3	228.1	229.7	231.2	232.5	236.0	239.9	242.8	245.1	246.9	248.3	250.7	252.5	255.1	257.0	263.0
246	228.2	229.9	231.6	233.0	234.4	237.9	241.9	244.9	247.1	248.9	250.4	252.8	254.6	257.2	259.1	265.2
248	230.0	231.8	233.4	234.9	236.3	239.9	243.9	246.9	249.2	251.0	252.5	254.8	256.7	259.3	261.2	267.4
250	231.9	233.7	235.3	236.8	238.2	241.8	245.9	248.9	251.2	253.0	254.5	256.9	258.7	261.4	263.3	269.6
	.928	*.934*	*.942*	*.948*	*.954*	*.968*	*.998*	*1.010*	*1.020*	*1.028*	*1.034*	*1.042*	*1.050*	*1.058*	*1.064*	*1.108*
300	278.3	280.4	282.4	284.2	285.9	290.2	295.8	299.4	302.2	304.4	306.2	309.0	311.2	314.3	316.5	325.0
	.926	*.936*	*.942*	*.948*	*.952*	*.968*	*.984*	*1.010*	*1.020*	*1.028*	*1.034*	*1.044*	*1.050*	*1.058*	*1.064*	*1.108*
350	324.6	327.2	329.5	331.6	333.5	338.6	345.0	349.9	353.2	355.8	357.9	361.2	363.7	367.2	369.7	380.4
	.928	*.934*	*.940*	*.946*	*.954*	*.966*	*.986*	*1.000*	*1.020*	*1.028*	*1.036*	*1.044*	*1.050*	*1.060*	*1.066*	*1.108*
400	371.0	373.9	376.5	378.9	381.2	386.9	394.3	399.9	404.2	407.2	409.7	413.4	416.2	420.2	423.0	435.8
	.928	*.934*	*.942*	*.948*	*.952*	*.968*	*.986*	*1.000*	*1.010*	*1.030*	*1.034*	*1.046*	*1.052*	*1.062*	*1.068*	*1.110*
450	417.4	420.6	423.6	426.3	428.8	435.3	443.6	449.9	454.7	458.7	461.4	465.7	468.8	473.3	476.4	491.3
	.928	*.936*	*.942*	*.948*	*.954*	*.968*	*.986*	*1.000*	*1.012*	*1.018*	*1.036*	*1.046*	*1.054*	*1.062*	*1.066*	*1.108*
500	463.8	467.4	470.7	473.7	476.5	483.7	492.9	499.9	505.3	509.6	513.2	518.0	521.5	526.4	529.7	546.7
	.927	*.934*	*.941*	*.947*	*.953*	*.967*	*.986*	*.999*	*1.010*	*1.020*	*1.027*	*1.046*	*1.053*	*1.062*	*1.069*	*1.110*
600	556.5	560.8	564.8	568.4	571.8	580.4	591.5	599.8	606.3	611.6	615.9	622.6	626.8	632.6	636.6	657.7
	.928	*.935*	*.941*	*.947*	*.953*	*.968*	*.986*	*1.000*	*1.011*	*1.019*	*1.026*	*1.037*	*1.054*	*1.064*	*1.070*	*1.110*
700	649.3	654.3	658.9	663.1	667.1	677.2	690.1	699.8	707.4	713.5	718.5	726.3	732.2	739.0	743.6	768.7
	.927	*.935*	*.941*	*.948*	*.952*	*.967*	*.986*	*1.000*	*1.010*	*1.019*	*1.026*	*1.038*	*1.046*	*1.064*	*1.070*	*1.110*
800	742.0	747.8	753.0	757.9	762.3	773.9	788.7	799.8	808.4	815.4	821.1	830.1	836.8	845.4	850.6	879.7
	.928	*.934*	*.942*	*.947*	*.953*	*.967*	*.986*	*.999*	*1.011*	*1.019*	*1.027*	*1.038*	*1.046*	*1.065*	*1.071*	*1.111*
900	834.8	841.2	847.2	852.6	857.6	870.6	887.3	899.7	909.5	917.3	923.8	933.9	941.4	951.9	957.7	990.8
	.927	*.935*	*.941*	*.948*	*.953*	*.968*	*.985*	*1.000*	*1.015*	*1.017*	*1.022*	*1.041*	*1.046*	*1.061*	*1.073*	*1.112*
1000	927.5	934.7	941.3	947.4	952.9	967.4	985.8	999.7	1011.	1019.	1026.	1038.	1046.	1058.	1065.	1102.
	.925	*.933*	*.937*	*.946*	*.951*	*.966*	*.982*	*1.003*	*1.01*	*1.02*	*1.03*	*1.03*	*1.05*	*1.05*	*1.07*	*1.11*
1100	1020.	1028.	1035.	1042.	1048.	1064.	1084.	1100.	1112.	1121.	1129.	1141.	1151.	1163.	1172.	1213.
	.9275	*.9347*	*.9413*	*.9474*	*.9529*	*.9674*	*.9858*	*1.000*	*1.011*	*1.019*	*1.026*	*1.038*	*1.046*	*1.058*	*1.065*	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

k

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	1.00															
3	1.52	1.93														
4	2.05	2.60	2.95													
5	2.57	3.28	3.71	4.01												
6	3.08	3.97	4.49	4.84	5.11											
7	3.60	4.66	5.27	5.68	5.99	6.23										
8	4.11	5.36	6.05	6.52	6.87	7.15	7.37									
9	4.62	6.06	6.84	7.37	7.76	8.07	8.32	8.52								
10	5.14	6.73	7.63	8.22	8.66	8.99	9.27	9.49	9.68							
11	5.65	7.40	8.42	9.07	9.55	9.92	10.2	10.5	10.7	10.9						
12	6.16	8.08	9.22	9.93	10.5	10.9	11.2	11.4	11.7	11.9	12.0					
13	6.68	8.75	10.0	10.8	11.4	11.8	12.1	12.4	12.7	12.9	13.1	13.2				
14	7.19	9.42	10.8	11.6	12.3	12.7	13.1	13.4	13.7	13.9	14.1	14.3	14.4			
15	7.71	10.1	11.6	12.5	13.2	13.7	14.1	14.4	14.7	14.9	15.1	15.3	15.5	15.6		
16	8.22	10.8	12.4	13.4	14.1	14.6	15.0	15.4	15.7	15.9	16.1	16.3	16.5	16.7	16.8	
17	8.73	11.4	13.2	14.2	15.0	15.5	16.0	16.4	16.7	16.9	17.2	17.4	17.6	17.7	17.9	18.0
18	9.25	12.1	14.0	15.1	15.9	16.5	17.0	17.3	17.7	18.0	18.2	18.4	18.6	18.8	18.9	19.1
19	9.76	12.8	14.8	16.0	16.8	17.4	17.9	18.3	18.7	19.0	19.2	19.5	19.7	19.9	20.0	20.2
20	10.3	13.5	15.5	16.8	17.7	18.4	18.9	19.3	19.7	20.0	20.3	20.5	20.7	20.9	21.1	21.2
21	10.8	14.1	16.3	17.7	18.6	19.3	19.9	20.3	20.7	21.0	21.3	21.6	21.8	22.0	22.2	22.3
22	11.3	14.8	17.1	18.6	19.5	20.3	20.8	21.3	21.7	22.1	22.3	22.6	22.8	23.0	23.2	23.4
23	11.8	15.5	17.9	19.5	20.5	21.2	21.8	22.3	22.7	23.1	23.4	23.7	23.9	24.1	24.3	24.5
24	12.3	16.2	18.6	20.3	21.4	22.2	22.8	23.3	23.7	24.1	24.4	24.7	25.0	25.2	25.4	25.6
25	12.8	16.8	19.4	21.2	22.3	23.1	23.8	24.3	24.8	25.1	25.5	25.8	26.0	26.2	26.5	26.6
26	13.4	17.5	20.2	22.0	23.2	24.1	24.7	25.3	25.8	26.2	26.5	26.8	27.1	27.3	27.5	27.7
27	13.9	18.2	21.0	22.9	24.1	25.0	25.7	26.3	26.8	27.2	27.5	27.9	28.1	28.4	28.6	28.8
28	14.4	18.8	21.7	23.7	25.0	26.0	26.7	27.3	27.8	28.2	28.6	28.9	29.2	29.5	29.7	29.9
29	14.9	19.5	22.5	24.6	26.0	26.9	27.7	28.3	28.8	29.3	29.6	30.0	30.3	30.5	30.8	31.0
30	15.4	20.2	23.3	25.4	26.9	27.9	28.7	29.3	29.8	30.3	30.7	31.0	31.3	31.6	31.8	32.1
31	15.9	20.9	24.1	26.3	27.8	28.8	29.6	30.3	30.8	31.3	31.7	32.1	32.4	32.7	32.9	33.2
32	16.4	21.5	24.8	27.1	28.7	29.8	30.6	31.3	31.9	32.3	32.8	33.1	33.5	33.7	34.0	34.2
33	17.0	22.2	25.6	28.0	29.6	30.7	31.6	32.3	32.9	33.4	33.8	34.2	34.5	34.8	35.1	35.3
34	17.5	22.9	26.4	28.8	30.6	31.7	32.6	33.3	33.9	34.4	34.9	35.2	35.6	35.9	36.2	36.4
35	18.0	23.6	27.2	29.7	31.5	32.6	33.6	34.3	34.9	35.5	35.9	36.3	36.7	37.0	37.3	37.5
36	18.5	24.2	28.0	30.5	32.4	33.6	34.5	35.3	35.9	36.5	37.0	37.4	37.7	38.0	38.3	38.6
37	19.0	24.9	28.7	31.4	33.3	34.6	35.5	36.3	37.0	37.5	38.0	38.4	38.8	39.1	39.4	39.7
38	19.5	25.6	29.5	32.2	34.2	35.5	36.5	37.3	38.0	38.6	39.1	39.5	39.9	40.2	40.5	40.8
39	20.0	26.3	30.3	33.1	35.1	36.5	37.5	38.3	39.0	39.6	40.1	40.5	40.9	41.3	41.6	41.9
40	20.5	26.9	31.1	33.9	36.0	37.4	38.5	39.3	40.0	40.6	41.1	41.6	42.0	42.4	42.7	43.0
41	21.1	27.6	31.8	34.8	36.9	38.4	39.5	40.3	41.1	41.7	42.2	42.7	43.1	43.4	43.8	44.1
42	21.6	28.3	32.6	35.6	37.8	39.3	40.4	41.3	42.1	42.7	43.2	43.7	44.1	44.5	44.8	45.1
43	22.1	28.9	33.4	36.5	38.7	40.3	41.4	42.3	43.1	43.7	44.3	44.8	45.2	45.6	45.9	46.2
44	22.6	29.6	34.2	37.3	39.6	41.3	42.4	43.4	44.1	44.8	45.4	45.8	46.3	46.7	47.0	47.3
45	23.1	30.3	34.9	38.2	40.5	42.2	43.4	44.4	45.2	45.8	46.4	46.9	47.3	47.7	48.1	48.4
46	23.6	31.0	35.7	39.0	41.4	43.2	44.4	45.4	46.2	46.9	47.5	48.0	48.4	48.8	49.2	49.5
47	24.1	31.6	36.5	39.8	42.3	44.1	45.4	46.4	47.2	47.9	48.5	49.0	49.5	49.9	50.3	50.6
48	24.7	32.3	37.3	40.7	43.2	45.1	46.4	47.4	48.2	48.9	49.6	50.1	50.6	51.0	51.4	51.7
49	25.2	33.0	38.0	41.5	44.1	46.0	47.3	48.4	49.3	50.0	50.6	51.2	51.6	52.1	52.5	52.8
50	25.7	33.7	38.8	42.4	45.0	47.0	48.3	49.4	50.3	51.0	51.7	52.2	52.7	53.1	53.5	53.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110			
1																	.250	1
2																	1.00	2
3																	1.93	3
4																	2.95	4
5																	4.01	5
6																	5.11	6
7																	6.23	7
8																	7.37	8
9																	8.52	9
10																	9.68	10
11																	10.9	11
12																	12.0	12
13																	13.2	13
14																	14.4	14
15																	15.6	15
16																	16.8	16
17																	18.0	17
18	19.2																19.2	18
19	20.3	20.4															20.4	19
20	21.4	21.5	21.6														21.6	20
21	22.5	22.6	22.7	22.8													22.8	21
22	23.6	23.7	23.8	24.0	24.1												24.1	22
23	24.6	24.8	24.9	25.1	25.2												25.3	23
24	25.7	25.9	26.0	26.2	26.3												26.5	24
25	26.8	27.0	27.1	27.3	27.4	27.7											27.7	25
26	27.9	28.1	28.2	28.4	28.5	28.8											28.9	26
27	29.0	29.2	29.3	29.5	29.6	30.0											30.2	27
28	30.1	30.3	30.4	30.6	30.7	31.1											31.4	28
29	31.2	31.4	31.5	31.7	31.8	32.2											32.6	29
30	32.3	32.5	32.6	32.8	32.9	33.3	33.8										33.8	30
31	33.4	33.6	33.7	33.9	34.1	34.5	35.0										35.1	31
32	34.5	34.7	34.8	35.0	35.2	35.6	36.1										36.3	32
33	35.6	35.8	35.9	36.1	36.3	36.7	37.3										37.5	33
34	36.6	36.9	37.0	37.2	37.4	37.8	38.4										38.8	34
35	37.7	38.0	38.2	38.3	38.5	38.9	39.5	40.0									40.0	35
36	38.8	39.1	39.3	39.4	39.6	40.1	40.7	41.1									41.2	36
37	39.9	40.2	40.4	40.6	40.7	41.2	41.8	42.3									42.4	37
38	41.0	41.3	41.5	41.7	41.8	42.3	43.0	43.4									43.7	38
39	42.1	42.4	42.6	42.8	43.0	43.5	44.1	44.6									44.9	39
40	43.2	43.5	43.7	43.9	44.1	44.6	45.2	45.7	46.1								46.1	40
41	44.3	44.6	44.8	45.0	45.2	45.7	46.4	46.9	47.3								47.4	41
42	45.4	45.7	45.9	46.1	46.3	46.8	47.5	48.0	48.5								48.6	42
43	46.5	46.8	47.0	47.2	47.4	48.0	48.7	49.2	49.6								49.9	43
44	47.6	47.9	48.1	48.3	48.6	49.1	49.8	50.4	50.8								51.1	44
45	48.7	49.0	49.2	49.5	49.7	50.2	50.9	51.5	52.0	52.3							52.3	45
46	49.8	50.1	50.3	50.6	50.8	51.4	52.1	52.7	53.1	53.5							53.6	46
47	50.9	51.2	51.4	51.7	51.9	52.5	53.2	53.8	54.3	54.7							54.8	47
48	52.0	52.3	52.6	52.8	53.0	53.6	54.4	55.0	55.4	55.8							56.0	48
49	53.1	53.4	53.7	53.9	54.1	54.7	55.5	56.1	56.6	57.0							57.3	49
50	54.2	54.5	54.8	55.0	55.3	55.9	56.7	57.3	57.8	58.2	58.5						58.5	50
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		k=N	N
	k																	

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	25.7	33.7	38.8	42.4	45.0	47.0	48.3	49.4	50.3	51.0	51.7	52.2	52.7	53.1	53.5	53.9
51	26.2	34.3	39.6	43.2	45.9	47.9	49.3	50.4	51.3	52.1	52.7	53.3	53.8	54.2	54.6	55.0
52	26.7	35.0	40.4	44.1	46.8	48.9	50.3	51.4	52.3	53.1	53.8	54.3	54.9	55.3	55.7	56.1
53	27.2	35.7	41.1	44.9	47.7	49.8	51.3	52.4	53.4	54.1	54.8	55.4	55.9	56.4	56.8	57.2
54	27.7	36.4	41.9	45.8	48.6	50.7	52.3	53.4	54.4	55.2	55.9	56.5	57.0	57.5	57.9	58.3
55	28.3	37.0	42.7	46.6	49.5	51.7	53.3	54.4	55.4	56.2	56.9	57.5	58.1	58.6	59.0	59.4
56	28.8	37.7	43.5	47.5	50.4	52.6	54.2	55.4	56.4	57.3	58.0	58.6	59.2	59.6	60.1	60.5
57	29.3	38.4	44.3	48.3	51.3	53.6	55.2	56.4	57.5	58.3	59.0	59.7	60.2	60.7	61.2	61.6
58	29.8	39.0	45.0	49.2	52.2	54.5	56.2	57.5	58.5	59.4	60.1	60.7	61.3	61.8	62.3	62.7
59	30.3	39.7	45.8	50.0	53.1	55.4	57.2	58.5	59.5	60.4	61.2	61.8	62.4	62.9	63.4	63.8
60	30.8	40.4	46.6	50.9	54.0	56.4	58.2	59.5	60.5	61.4	62.2	62.9	63.5	64.0	64.4	64.9
61	31.3	41.1	47.4	51.7	54.9	57.3	59.2	60.5	61.6	62.5	63.3	63.9	64.5	65.1	65.5	66.0
62	31.8	41.7	48.1	52.6	55.8	58.3	60.2	61.5	62.6	63.5	64.3	65.0	65.6	66.1	66.6	67.1
63	32.4	42.4	48.9	53.4	56.7	59.2	61.1	62.5	63.6	64.6	65.4	66.1	66.7	67.2	67.7	68.2
64	32.9	43.1	49.7	54.3	57.6	60.1	62.1	63.5	64.6	65.6	66.4	67.1	67.8	68.3	68.8	69.3
65	33.4	43.8	50.5	55.1	58.5	61.1	63.1	64.5	65.7	66.7	67.5	68.2	68.8	69.4	69.9	70.4
66	33.9	44.4	51.2	56.0	59.4	62.0	64.1	65.5	66.7	67.7	68.5	69.3	69.9	70.5	71.0	71.5
67	34.4	45.1	52.0	56.8	60.3	63.0	65.0	66.5	67.7	68.7	69.6	70.3	71.0	71.6	72.1	72.6
68	34.9	45.8	52.8	57.7	61.2	63.9	66.0	67.5	68.8	69.8	70.7	71.4	72.1	72.7	73.2	73.7
69	35.4	46.4	53.6	58.5	62.1	64.8	67.0	68.6	69.8	70.8	71.7	72.5	73.1	73.7	74.3	74.8
70	36.0	47.1	54.3	59.3	63.0	65.8	67.9	69.6	70.8	71.9	72.8	73.5	74.2	74.8	75.4	75.9
71	36.5	47.8	55.1	60.2	63.9	66.7	68.9	70.6	71.8	72.9	73.8	74.6	75.3	75.9	76.5	77.0
72	37.0	48.5	55.9	61.0	64.8	67.7	69.9	71.6	72.9	74.0	74.9	75.7	76.4	77.0	77.6	78.1
73	37.5	49.1	56.7	61.9	65.7	68.6	70.9	72.6	73.9	75.0	75.9	76.7	77.5	78.1	78.6	79.2
74	38.0	49.8	57.5	62.7	66.6	69.5	71.8	73.6	74.9	76.0	77.0	77.8	78.5	79.2	79.7	80.3
75	38.5	50.5	58.2	63.6	67.5	70.5	72.8	74.6	76.0	77.1	78.0	78.9	79.6	80.3	80.8	81.4
76	39.0	51.2	59.0	64.4	68.4	71.4	73.8	75.6	77.0	78.1	79.1	79.9	80.7	81.3	81.9	82.5
77	39.6	51.8	59.8	65.3	69.3	72.3	74.7	76.6	78.0	79.2	80.2	81.0	81.8	82.4	83.0	83.6
78	40.1	52.5	60.6	66.1	70.2	73.3	75.7	77.6	79.0	80.2	81.2	82.1	82.8	83.5	84.1	84.7
79	40.6	53.2	61.3	67.0	71.1	74.2	76.7	78.6	80.1	81.3	82.3	83.2	83.9	84.6	85.2	85.8
80	41.1	53.9	62.1	67.8	72.0	75.2	77.7	79.6	81.1	82.3	83.3	84.2	85.0	85.7	86.3	86.9
81	41.6	54.5	62.9	68.7	72.9	76.1	78.6	80.7	82.1	83.3	84.4	85.3	86.1	86.8	87.4	88.0
82	42.1	55.2	63.7	69.5	73.8	77.0	79.6	81.7	83.1	84.4	85.4	86.4	87.2	87.9	88.5	89.1
83	42.6	55.9	64.4	70.4	74.7	78.0	80.6	82.6	84.2	85.4	86.5	87.4	88.2	89.0	89.6	90.2
84	43.1	56.5	65.2	71.2	75.6	78.9	81.5	83.6	85.2	86.5	87.6	88.5	89.3	90.0	90.7	91.3
85	43.7	57.2	66.0	72.1	76.5	79.9	82.5	84.6	86.2	87.5	88.6	89.6	90.4	91.1	91.8	92.4
86	44.2	57.9	66.8	72.9	77.4	80.8	83.5	85.6	87.3	88.6	89.7	90.6	91.5	92.2	92.9	93.5
87	44.7	58.6	67.5	73.8	78.3	81.7	84.5	86.6	88.3	89.6	90.7	91.7	92.6	93.3	94.0	94.6
88	45.2	59.2	68.3	74.6	79.2	82.7	85.4	87.6	89.3	90.7	91.8	92.8	93.6	94.4	95.1	95.7
89	45.7	59.9	69.1	75.5	80.1	83.6	86.4	88.6	90.3	91.7	92.8	93.8	94.7	95.5	96.2	96.8
90	46.2	60.6	69.9	76.3	81.0	84.6	87.4	89.6	91.4	92.7	93.9	94.9	95.8	96.6	97.3	97.9
91	46.7	61.3	70.7	77.2	81.9	85.5	88.3	90.6	92.4	93.8	95.0	96.0	96.9	97.7	98.4	99.0
92	47.3	61.9	71.4	78.0	82.8	86.4	89.3	91.6	93.4	94.8	96.0	97.1	98.0	98.7	99.4	100.1
93	47.8	62.6	72.2	78.8	83.7	87.4	90.3	92.6	94.4	95.9	97.1	98.1	99.0	99.8	100.5	101.2
94	48.3	63.3	73.0	79.7	84.6	88.3	91.2	93.6	95.5	96.9	98.1	99.2	100.1	100.9	101.6	102.3
95	48.8	64.0	73.8	80.5	85.5	89.3	92.2	94.6	96.5	98.0	99.2	100.3	101.2	102.0	102.7	103.4
96	49.3	64.6	74.5	81.4	86.4	90.2	93.2	95.6	97.5	99.0	100.3	101.3	102.3	103.1	103.8	104.5
97	49.8	65.3	75.3	82.2	87.3	91.1	94.2	96.6	98.6	100.0	101.3	102.4	103.3	104.2	104.9	105.6
98	50.3	66.0	76.1	83.1	88.2	92.1	95.1	97.6	99.6	101.1	102.4	103.5	104.4	105.3	106.0	106.7
99	50.9	66.6	76.9	83.9	89.1	93.0	96.1	98.6	100.6	102.1	103.4	104.5	105.5	106.4	107.1	107.8
100	51.4	67.3	77.6	84.8	90.0	94.0	97.1	99.6	101.6	103.2	104.5	105.6	106.6	107.5	108.2	108.9
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	54.2	54.5	54.8	55.0	55.3	55.9	56.7	57.3	57.8	58.2	58.5					58.5	50
	55.3	55.6	55.9	56.1	56.4	57.0	57.8	58.4	58.9	59.3	59.7					59.7	51
	56.4	56.7	57.0	57.3	57.5	58.1	59.0	59.6	60.1	60.5	60.9					61.0	52
	57.5	57.8	58.1	58.4	58.6	59.3	60.1	60.7	61.3	61.7	62.0					62.2	53
	58.6	58.9	59.2	59.5	59.7	60.4	61.2	61.9	62.4	62.9	63.2					63.5	54
	59.7	60.0	60.3	60.6	60.9	61.5	62.4	63.1	63.6	64.0	64.4					64.7	55
	60.8	61.2	61.5	61.7	62.0	62.7	63.5	64.2	64.8	65.2	65.6					65.9	56
	61.9	62.3	62.6	62.9	63.1	63.8	64.7	65.4	65.9	66.4	66.7					67.2	57
	63.0	63.4	63.7	64.0	64.2	64.9	65.8	66.5	67.1	67.5	67.9					68.4	58
	64.1	64.5	64.8	65.1	65.4	66.1	67.0	67.7	68.2	68.7	69.1					69.7	59
	65.2	65.6	65.9	66.2	66.5	67.2	68.1	68.8	69.4	69.9	70.3	70.9				70.9	60
	66.3	66.7	67.0	67.3	67.6	68.3	69.3	70.0	70.6	71.1	71.5	72.1				72.1	61
	67.5	67.8	68.1	68.4	68.7	69.5	70.4	71.2	71.7	72.2	72.6	73.3				73.4	62
	68.6	68.9	69.3	69.6	69.8	70.6	71.6	72.3	72.9	73.4	73.8	74.5				74.6	63
	69.7	70.0	70.4	70.7	71.0	71.7	72.7	73.5	74.1	74.6	75.0	75.6				75.9	64
	70.8	71.1	71.5	71.8	72.1	72.9	73.9	74.6	75.2	75.7	76.2	76.8				77.1	65
	71.9	72.2	72.6	72.9	73.2	74.0	75.0	75.8	76.4	76.9	77.3	78.0				78.3	66
	73.0	73.4	73.7	74.0	74.3	75.1	76.2	76.9	77.6	78.1	78.5	79.2				79.6	67
	74.1	74.5	74.8	75.2	75.5	76.3	77.3	78.1	78.7	79.3	79.7	80.4				80.8	68
	75.2	75.6	75.9	76.3	76.6	77.4	78.5	79.3	79.9	80.4	80.9	81.6				82.1	69
	76.3	76.7	77.1	77.4	77.7	78.5	79.6	80.4	81.1	81.6	82.1	82.8	83.3			83.3	70
	77.4	77.8	78.2	78.5	78.8	79.7	80.7	81.6	82.2	82.8	83.2	84.0	84.5			84.6	71
	78.5	78.9	79.3	79.6	80.0	80.8	81.9	82.7	83.4	84.0	84.4	85.1	85.7			85.8	72
	79.6	80.0	80.4	80.8	81.1	81.9	83.0	83.9	84.6	85.1	85.6	86.3	86.9			87.0	73
	80.7	81.1	81.5	81.9	82.2	83.1	84.2	85.1	85.7	86.3	86.8	87.5	88.1			88.3	74
	81.8	82.3	82.6	83.0	83.3	84.2	85.3	86.2	86.9	87.5	87.9	88.7	89.3			89.5	75
	82.9	83.4	83.8	84.1	84.5	85.3	86.5	87.4	88.1	88.6	89.1	89.9	90.5			90.8	76
	84.0	84.5	84.9	85.2	85.6	86.5	87.6	88.5	89.2	89.8	90.3	91.1	91.7			92.0	77
	85.1	85.6	86.0	86.4	86.7	87.6	88.8	89.7	90.4	91.0	91.5	92.3	92.9			93.3	78
	86.3	86.7	87.1	87.5	87.8	88.8	89.9	90.9	91.6	92.2	92.7	93.5	94.1			94.5	79
	87.4	87.8	88.2	88.6	89.0	89.9	91.1	92.0	92.7	93.3	93.8	94.6	95.3			95.7	80
	88.5	88.9	89.3	89.7	90.1	91.0	92.2	93.2	93.9	94.5	95.0	95.8	96.5			97.0	81
	89.6	90.0	90.5	90.9	91.2	92.2	93.4	94.3	95.1	95.7	96.2	97.0	97.7			98.2	82
	90.7	91.2	91.6	92.0	92.3	93.3	94.5	95.5	96.2	96.9	97.4	98.2	98.8			99.5	83
	91.8	92.3	92.7	93.1	93.5	94.4	95.7	96.7	97.4	98.0	98.6	99.4	100.0			100.7	84
	92.9	93.4	93.8	94.2	94.6	95.6	96.8	97.8	98.6	99.2	99.7	100.6	101.2			102.0	85
	94.0	94.5	94.9	95.4	95.7	96.7	98.0	99.0	99.8	100.4	100.9	101.8	102.4			103.2	86
	95.1	95.6	96.1	96.5	96.9	97.9	99.1	100.1	100.9	101.6	102.1	103.0	103.6			104.5	87
	96.2	96.7	97.2	97.6	98.0	99.0	100.3	101.3	102.1	102.7	103.3	104.2	104.8			105.7	88
	97.3	97.8	98.3	98.7	99.1	100.1	101.4	102.5	103.3	103.9	104.5	105.3	106.0			106.9	89
	98.4	98.9	99.4	99.8	100.2	101.3	102.6	103.6	104.4	105.1	105.6	106.5	107.2	108.2		108.2	90
	99.5	100.1	100.5	101.0	101.4	102.4	103.8	104.8	105.6	106.3	106.8	107.7	108.4	109.4		109.4	91
	100.7	101.2	101.7	102.1	102.5	103.5	104.9	105.9	106.8	107.4	108.0	108.9	109.6	110.6		110.7	92
	101.8	102.3	102.8	103.2	103.6	104.7	106.1	107.1	107.9	108.6	109.2	110.1	110.8	111.8		111.9	93
	102.9	103.4	103.9	104.3	104.8	105.8	107.2	108.3	109.1	109.8	110.4	111.3	112.0	113.0		113.2	94
	104.0	104.5	105.0	105.5	105.9	107.0	108.4	109.4	110.3	111.0	111.6	112.5	113.2	114.2		114.4	95
	105.1	105.6	106.1	106.6	107.0	108.1	109.5	110.6	111.4	112.1	112.7	113.7	114.4	115.4		115.7	96
	106.2	106.7	107.3	107.7	108.1	109.2	110.7	111.8	112.6	113.3	113.9	114.9	115.6	116.6		116.9	97
	107.3	107.9	108.4	108.8	109.3	110.4	111.8	112.9	113.8	114.5	115.1	116.1	116.8	117.8		118.2	98
	108.4	109.0	109.5	110.0	110.4	111.5	113.0	114.1	115.0	115.7	116.3	117.2	118.0	119.0		119.4	99
	109.5	110.1	110.6	111.1	111.5	112.7	114.1	115.2	116.1	116.9	117.5	118.4	119.2	120.2		120.6	100
k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	51.4	67.3	77.6	84.8	90.0	94.0	97.1	99.6	101.6	103.2	104.5	105.6	106.6	107.5	108.2	108.9
102	52.4	68.7	79.2	86.5	91.8	95.8	99.0	101.6	103.7	105.3	106.6	107.7	108.7	109.6	110.4	111.1
104	53.4	70.0	80.7	88.2	93.6	97.7	101.0	103.6	105.7	107.3	108.7	109.9	110.9	111.8	112.6	113.3
106	54.4	71.4	82.3	89.9	95.4	99.6	102.9	105.5	107.7	109.4	110.8	112.0	113.1	114.0	114.8	115.5
108	55.5	72.7	83.9	91.6	97.2	101.5	104.8	107.5	109.8	111.5	112.9	114.2	115.2	116.2	117.0	117.7
110	56.5	74.0	85.4	93.3	99.0	103.4	106.8	109.5	111.8	113.6	115.1	116.3	117.4	118.3	119.2	119.9
112	57.5	75.4	87.0	95.0	100.8	105.2	108.7	111.5	113.8	115.7	117.2	118.4	119.5	120.5	121.4	122.2
114	58.6	76.7	88.5	96.7	102.6	107.1	110.7	113.5	115.9	117.7	119.3	120.6	121.7	122.7	123.6	124.4
116	59.6	78.1	90.1	98.4	104.4	109.0	112.6	115.5	117.9	119.8	121.4	122.7	123.9	124.9	125.8	126.6
118	60.6	79.4	91.6	100.0	106.2	110.9	114.5	117.5	119.9	121.9	123.5	124.9	126.0	127.0	128.0	128.8
120	61.6	80.8	93.2	101.7	108.0	112.8	116.5	119.5	122.0	123.9	125.6	127.0	128.2	129.2	130.2	131.0
122	62.7	82.1	94.7	103.4	109.8	114.6	118.4	121.5	124.0	126.0	127.7	129.1	130.3	131.4	132.3	133.2
124	63.7	83.5	96.3	105.1	111.6	116.5	120.4	123.5	126.0	128.1	129.8	131.3	132.5	133.6	134.5	135.4
126	64.7	84.8	97.8	106.8	113.4	118.4	122.3	125.5	128.1	130.1	131.9	133.4	134.7	135.8	136.7	137.6
128	65.7	86.2	99.4	108.5	115.2	120.3	124.2	127.5	130.1	132.2	134.0	135.5	136.8	137.9	138.9	139.8
130	66.8	87.5	100.9	110.2	117.0	122.1	126.2	129.4	132.1	134.3	136.1	137.7	139.0	140.1	141.1	142.0
132	67.8	88.9	102.5	111.9	118.8	124.0	128.1	131.4	134.2	136.3	138.2	139.8	141.1	142.3	143.3	144.2
134	68.8	90.2	104.0	113.6	120.6	125.9	130.1	133.4	136.2	138.4	140.3	141.9	143.3	144.5	145.5	146.4
136	69.9	91.6	105.6	115.3	122.4	127.8	132.0	135.4	138.2	140.5	142.4	144.0	145.5	146.6	147.7	148.7
138	70.9	92.9	107.1	117.0	124.2	129.7	134.0	137.4	140.3	142.5	144.5	146.1	147.6	148.8	149.9	150.9
140	71.9	94.2	108.7	118.7	126.0	131.5	135.9	139.4	142.3	144.6	146.6	148.3	149.8	151.0	152.1	153.1
142	72.9	95.6	110.2	120.4	127.8	133.4	137.8	141.4	144.3	146.7	148.6	150.4	151.9	153.2	154.3	155.3
144	74.0	96.9	111.8	122.1	129.6	135.3	139.8	143.4	146.4	148.7	150.7	152.5	154.0	155.4	156.5	157.5
146	75.0	98.3	113.4	123.8	131.4	137.2	141.7	145.4	148.4	150.8	152.8	154.6	156.2	157.5	158.7	159.7
148	76.0	99.6	114.9	125.5	133.2	139.1	143.7	147.4	150.4	152.8	154.9	156.7	158.3	159.7	160.9	161.9
150	77.1	101.0	116.5	127.2	135.0	140.9	145.6	149.4	152.5	154.9	157.0	158.9	160.5	161.9	163.1	164.1
152	78.1	102.3	118.0	128.9	136.8	142.8	147.5	151.4	154.5	157.0	159.1	161.0	162.6	164.0	165.3	166.3
154	79.1	103.7	119.6	130.6	138.6	144.7	149.5	153.3	156.5	159.0	161.2	163.1	164.7	166.2	167.5	168.5
156	80.1	105.0	121.1	132.3	140.4	146.6	151.4	155.3	158.5	161.1	163.3	165.2	166.9	168.4	169.6	170.7
158	81.2	106.4	122.7	134.0	142.2	148.5	153.4	157.3	160.6	163.2	165.4	167.3	169.0	170.5	171.8	173.0
160	82.2	107.7	124.2	135.7	144.0	150.3	155.3	159.3	162.6	165.2	167.5	169.4	171.2	172.7	174.0	175.2
162	83.2	109.1	125.8	137.4	145.8	152.2	157.3	161.3	164.6	167.3	169.6	171.6	173.3	174.8	176.2	177.4
164	84.2	110.4	127.3	139.0	147.6	154.1	159.2	163.3	166.7	169.4	171.7	173.7	175.4	177.0	178.4	179.6
166	85.3	111.7	128.9	140.7	149.4	156.0	161.1	165.3	168.7	171.4	173.8	175.8	177.6	179.2	180.6	181.8
168	86.3	113.1	130.4	142.4	151.2	157.9	163.1	167.3	170.7	173.5	175.9	177.9	179.7	181.3	182.7	184.0
170	87.3	114.4	132.0	144.1	153.0	159.7	165.0	169.3	172.8	175.6	178.0	180.0	181.9	183.5	184.9	186.2
172	88.4	115.8	133.5	145.8	154.8	161.6	167.0	171.3	174.8	177.6	180.1	182.2	184.0	185.6	187.1	188.4
174	89.4	117.1	135.1	147.5	156.6	163.5	168.9	173.3	176.8	179.7	182.1	184.3	186.1	187.8	189.3	190.6
176	90.4	118.5	136.6	149.2	158.4	165.4	170.8	175.3	178.9	181.8	184.2	186.4	188.3	189.9	191.4	192.8
178	91.4	119.8	138.2	150.9	160.2	167.2	172.8	177.2	180.9	183.8	186.3	188.5	190.4	192.1	193.6	195.0
180	92.5	121.2	139.8	152.6	162.0	169.1	174.7	179.2	182.9	185.9	188.4	190.6	192.6	194.3	195.8	197.2
182	93.5	122.5	141.3	154.3	163.8	171.0	176.7	181.2	185.0	188.0	190.5	192.7	194.7	196.4	198.0	199.3
184	94.5	123.9	142.9	156.0	165.6	172.9	178.6	183.2	187.0	190.0	192.6	194.9	196.8	198.6	200.1	201.5
186	95.5	125.2	144.4	157.7	167.4	174.8	180.5	185.2	189.0	192.1	194.7	197.0	199.0	200.7	202.3	203.7
188	96.6	126.6	146.0	159.4	169.2	176.6	182.5	187.2	191.1	194.2	196.8	199.1	201.1	202.9	204.5	205.9
190	97.6	127.9	147.5	161.1	171.0	178.5	184.4	189.2	193.1	196.2	198.9	201.2	203.3	205.1	206.7	208.1
192	98.6	129.3	149.1	162.8	172.8	180.4	186.4	191.2	195.1	198.3	201.0	203.3	205.4	207.2	208.8	210.3
194	99.7	130.6	150.6	164.5	174.6	182.3	188.3	193.2	197.2	200.4	203.1	205.5	207.5	209.4	211.0	212.5
196	100.7	131.9	152.2	166.2	176.4	184.2	190.3	195.2	199.2	202.4	205.2	207.6	209.7	211.5	213.2	214.7
198	101.7	133.3	153.7	167.9	178.2	186.0	192.2	197.2	201.2	204.5	207.3	209.7	211.8	213.7	215.4	216.9
200	102.7	134.6	155.3	169.6	180.0	187.9	194.1	199.1	203.3	206.6	209.4	211.8	214.0	215.9	217.5	219.1
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
100	109.5	110.1	110.6	111.1	111.5	112.7	114.1	115.2	116.1	116.9	117.5	118.4	119.2	120.2		120.6	100
102	111.7	112.3	112.9	113.3	113.8	114.9	116.4	117.6	118.5	119.2	119.8	120.8	121.6	122.7		123.1	102
104	114.0	114.6	115.1	115.6	116.0	117.2	118.7	119.9	120.8	121.6	122.2	123.2	124.0	125.1		125.6	104
106	116.2	116.8	117.3	117.8	118.3	119.5	121.0	122.2	123.1	123.9	124.6	125.6	126.4	127.5		128.1	106
108	118.4	119.0	119.6	120.1	120.6	121.8	123.3	124.5	125.5	126.3	126.9	128.0	128.7	129.9		130.6	108
110	120.6	121.2	121.8	122.3	122.8	124.1	125.7	126.9	127.8	128.6	129.3	130.3	131.1	132.3	133.1	133.1	110
112	122.8	123.5	124.1	124.6	125.1	126.3	128.0	129.2	130.2	131.0	131.6	132.7	133.5	134.7	135.5	135.6	112
114	125.1	125.7	126.3	126.8	127.3	128.6	130.3	131.5	132.5	133.3	134.0	135.1	135.9	137.1	138.0	138.1	114
116	127.3	127.9	128.5	129.1	129.6	130.9	132.6	133.9	134.9	135.7	136.4	137.5	138.3	139.5	140.4	140.6	116
118	129.5	130.2	130.8	131.3	131.9	133.2	134.9	136.2	137.2	138.0	138.7	139.9	140.7	141.9	142.8	143.1	118
120	131.7	132.4	133.0	133.6	134.1	135.5	137.2	138.5	139.5	140.4	141.1	142.2	143.1	144.4	145.2	145.6	120
122	134.0	134.6	135.3	135.8	136.4	137.7	139.5	140.8	141.9	142.8	143.5	144.6	145.5	146.8	147.6	148.1	122
124	136.2	136.9	137.5	138.1	138.6	140.0	141.8	143.2	144.2	145.1	145.8	147.0	147.9	149.2	150.1	150.6	124
126	138.4	139.1	139.8	140.4	140.9	142.3	144.1	145.5	146.6	147.5	148.2	149.4	150.3	151.6	152.5	153.0	126
128	140.6	141.3	142.0	142.6	143.2	144.6	146.4	147.8	148.9	149.8	150.6	151.8	152.7	154.0	154.9	155.5	128
130	142.8	143.6	144.2	144.9	145.4	146.9	148.7	150.2	151.3	152.2	152.9	154.2	155.1	156.4	157.4	158.0	130
132	145.1	145.8	146.5	147.1	147.7	149.2	151.1	152.5	153.6	154.5	155.3	156.5	157.5	158.8	159.8	160.5	132
134	147.3	148.0	148.7	149.4	149.9	151.4	153.4	154.8	156.0	156.9	157.7	158.9	159.9	161.2	162.2	163.0	134
136	149.5	150.3	151.0	151.6	152.2	153.7	155.7	157.1	158.3	159.3	160.0	161.3	162.3	163.7	164.6	165.5	136
138	151.7	152.5	153.2	153.9	154.5	156.0	158.0	159.5	160.7	161.6	162.4	163.7	164.7	166.1	167.1	168.0	138
140	154.0	154.7	155.5	156.1	156.7	158.3	160.3	161.8	163.0	164.0	164.8	166.1	167.1	168.5	169.5	170.5	140
142	156.2	157.0	157.7	158.4	159.0	160.6	162.6	164.1	165.3	166.3	167.2	168.5	169.5	170.9	171.9	173.0	142
144	158.4	159.2	160.0	160.6	161.3	162.9	164.9	166.5	167.7	168.7	169.5	170.8	171.9	173.3	174.3	175.5	144
146	160.6	161.4	162.2	162.9	163.5	165.2	167.2	168.8	170.0	171.0	171.9	173.2	174.3	175.7	176.8	178.0	146
148	162.8	163.7	164.4	165.1	165.8	167.4	169.5	171.1	172.4	173.4	174.3	175.6	176.6	178.1	179.2	180.5	148
150	165.1	165.9	166.7	167.4	168.1	169.7	171.9	173.5	174.7	175.8	176.6	178.0	179.0	180.6	181.6	183.0	150
152	167.3	168.1	168.9	169.7	170.3	172.0	174.2	175.8	177.1	178.1	179.0	180.4	181.4	183.0	184.0	185.5	152
154	169.5	170.4	171.2	171.9	172.6	174.3	176.5	178.1	179.4	180.5	181.4	182.8	183.8	185.4	186.5	188.0	154
156	171.7	172.6	173.4	174.2	174.8	176.6	178.8	180.5	181.8	182.8	183.7	185.2	186.2	187.8	188.9	190.5	156
158	174.0	174.9	175.7	176.4	177.1	178.9	181.1	182.8	184.1	185.2	186.1	187.5	188.6	190.2	191.3	193.0	158
160	176.2	177.1	177.9	178.7	179.4	181.2	183.4	185.1	186.5	187.6	188.5	189.9	191.0	192.6	193.7	195.5	160
162	178.4	179.3	180.2	180.9	181.6	183.4	185.7	187.5	188.8	189.9	190.9	192.3	193.4	195.0	196.2	198.0	162
164	180.6	181.6	182.4	183.2	183.9	185.7	188.1	189.8	191.2	192.3	193.2	194.7	195.8	197.5	198.6	200.4	164
166	182.8	183.8	184.7	185.4	186.2	188.0	190.4	192.1	193.5	194.7	195.6	197.1	198.2	199.9	201.0	202.9	166
168	185.1	186.0	186.9	187.7	188.4	190.3	192.7	194.5	195.9	197.0	198.0	199.5	200.6	202.3	203.5	205.4	168
170	187.3	188.3	189.1	190.0	190.7	192.6	195.0	196.8	198.2	199.4	200.3	201.9	203.0	204.7	205.9	207.9	170
172	189.5	190.5	191.4	192.2	193.0	194.9	197.3	199.1	200.6	201.7	202.7	204.2	205.4	207.1	208.3	210.4	172
174	191.7	192.7	193.6	194.5	195.2	197.2	199.6	201.5	202.9	204.1	205.1	206.6	207.8	209.5	210.7	212.9	174
176	193.9	195.0	195.9	196.7	197.5	199.5	201.9	203.8	205.3	206.5	207.5	209.0	210.2	212.0	213.2	215.4	176
178	196.2	197.2	198.1	199.0	199.8	201.7	204.3	206.1	207.6	208.8	209.8	211.4	212.6	214.4	215.6	217.9	178
180	198.4	199.4	200.4	201.2	202.0	204.0	206.6	208.5	210.0	211.2	212.2	213.8	215.0	216.8	218.0	220.4	180
182	200.6	201.7	202.6	203.5	204.3	206.3	208.9	210.8	212.3	213.6	214.6	216.2	217.4	219.2	220.4	222.9	182
184	202.8	203.9	204.9	205.7	206.5	208.6	211.2	213.2	214.7	215.9	216.9	218.6	219.8	221.6	222.9	225.4	184
186	205.0	206.1	207.1	208.0	208.8	210.9	213.5	215.5	217.0	218.3	219.3	221.0	222.2	224.0	225.3	227.9	186
188	207.2	208.4	209.4	210.3	211.1	213.2	215.8	217.8	219.4	220.6	221.7	223.4	224.6	226.5	227.7	230.4	188
190	209.4	210.6	211.6	212.5	213.3	215.5	218.2	220.2	221.7	223.0	224.1	225.7	227.0	228.9	230.2	232.9	190
192	211.6	212.8	213.8	214.8	215.6	217.8	220.5	222.5	224.1	225.4	226.4	228.1	229.4	231.3	232.6	235.4	192
194	213.8	215.0	216.1	217.0	217.9	220.0	222.8	224.8	226.4	227.7	228.8	230.5	231.8	233.7	235.0	237.9	194
196	216.0	217.3	218.3	219.3	220.1	222.3	225.1	227.2	228.8	230.1	231.2	232.9	234.2	236.1	237.4	240.4	196
198	218.2	219.5	220.6	221.5	222.4	224.6	227.4	229.5	231.1	232.5	233.6	235.3	236.6	238.5	239.9	242.9	198
200	220.4	221.7	222.8	223.8	224.7	226.9	229.7	231.8	233.5	234.8	235.9	237.7	239.0	241.0	242.3	245.4	200
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	102.7	134.6	155.3	169.6	180.0	187.9	194.1	199.1	203.3	206.6	209.4	211.8	214.0	215.9	217.5	219.1
202	103.8	136.0	156.8	171.3	181.8	189.8	196.1	201.1	205.3	208.6	211.5	213.9	216.1	218.0	219.7	221.3
204	104.8	137.3	158.4	173.0	183.6	191.7	198.0	203.1	207.3	210.7	213.6	216.0	218.2	220.2	221.9	223.4
206	105.8	138.7	159.9	174.7	185.4	193.6	200.0	205.1	209.4	212.7	215.6	218.2	220.4	222.3	224.1	225.6
208	106.8	140.0	161.5	176.4	187.2	195.4	201.9	207.1	211.4	214.8	217.7	220.3	222.5	224.5	226.2	227.8
210	107.9	141.4	163.0	178.0	189.0	197.3	203.8	209.1	213.4	216.9	219.8	222.4	224.7	226.6	228.4	230.0
212	108.9	142.7	164.6	179.7	190.8	199.2	205.8	211.1	215.5	218.9	221.9	224.5	226.8	228.8	230.6	232.2
214	109.9	144.1	166.1	181.4	192.6	201.1	207.7	213.1	217.5	221.0	224.0	226.6	228.9	231.0	232.8	234.4
216	111.0	145.4	167.7	183.1	194.4	203.0	209.7	215.1	219.5	223.1	226.1	228.8	231.1	233.1	234.9	236.6
218	112.0	146.8	169.3	184.8	196.2	204.8	211.6	217.1	221.6	225.1	228.2	230.9	233.2	235.3	237.1	238.8
220	113.0	148.1	170.8	186.5	198.0	206.7	213.6	219.1	223.6	227.2	230.3	233.0	235.3	237.4	239.3	241.0
222	114.0	149.4	172.4	188.2	199.8	208.6	215.5	221.1	225.6	229.3	232.4	235.1	237.5	239.6	241.5	243.2
224	115.1	150.8	173.9	189.9	201.6	210.5	217.4	223.0	227.7	231.3	234.5	237.2	239.6	241.8	243.6	245.4
226	116.1	152.1	175.5	191.6	203.4	212.3	219.4	225.0	229.7	233.4	236.6	239.3	241.8	243.9	245.8	247.5
228	117.1	153.5	177.0	193.3	205.2	214.2	221.3	227.0	231.7	235.5	238.7	241.5	243.9	246.1	248.0	249.7
230	118.1	154.8	178.6	195.0	207.0	216.1	223.3	229.0	233.8	237.5	240.8	243.6	246.0	248.2	250.2	251.9
232	119.2	156.2	180.1	196.7	208.8	218.0	225.2	231.0	235.8	239.6	242.9	245.7	248.2	250.4	252.4	254.1
234	120.2	157.5	181.7	198.4	210.6	219.9	227.1	233.0	237.8	241.7	245.0	247.8	250.3	252.5	254.5	256.3
236	121.2	158.9	183.2	200.1	212.4	221.7	229.1	235.0	239.9	243.7	247.1	249.9	252.5	254.7	256.7	258.5
238	122.3	160.2	184.8	201.8	214.2	223.6	231.0	237.0	241.9	245.8	249.1	252.1	254.6	256.9	258.9	260.7
240	123.3	161.6	186.3	203.5	216.0	225.5	233.0	239.0	243.9	247.9	251.2	254.2	256.7	259.0	261.1	262.9
242	124.3	162.9	187.9	205.2	217.8	227.4	234.9	241.0	246.0	249.9	253.3	256.3	258.9	261.2	263.2	265.1
244	125.3	164.3	189.4	206.9	219.6	229.3	236.8	243.0	248.0	252.0	255.4	258.4	261.0	263.3	265.4	267.3
246	126.4	165.6	191.0	208.6	221.4	231.1	238.8	245.0	250.0	254.1	257.5	260.5	263.2	265.5	267.6	269.4
248	127.4	166.9	192.5	210.3	223.2	233.0	240.7	246.9	252.1	256.1	259.6	262.6	265.3	267.7	269.8	271.6
250	128.4	168.3	194.1	212.0	225.0	234.9	242.7	248.9	254.1	258.2	261.7	264.8	267.4	269.8	271.9	273.8
	.514	.674	.776	.848	.900	.940	.970	.996	1.016	1.032	1.046	1.058	1.070	1.080	1.088	1.096
300	154.1	202.0	232.9	254.4	270.0	281.9	291.2	298.7	304.9	309.8	314.0	317.7	320.9	323.8	326.3	328.6
	.514	.672	.776	.846	.900	.940	.970	.996	1.016	1.034	1.048	1.060	1.070	1.078	1.088	1.096
350	179.8	235.6	271.7	296.7	315.0	328.9	339.7	348.5	355.7	361.5	366.4	370.7	374.4	377.7	380.7	383.4
	.514	.674	.778	.848	.900	.938	.972	.996	1.016	1.032	1.046	1.058	1.070	1.080	1.088	1.094
400	205.5	269.3	310.6	339.1	360.0	375.8	388.3	398.3	406.5	413.1	418.7	423.6	427.9	431.7	435.1	438.1
	.514	.672	.776	.848	.900	.940	.970	.996	1.018	1.032	1.048	1.060	1.070	1.080	1.088	1.096
450	231.2	302.9	349.4	381.5	405.0	422.8	436.8	448.1	457.4	464.7	471.1	476.6	481.4	485.7	489.5	492.9
	.512	.674	.776	.848	.900	.940	.970	.996	1.016	1.034	1.046	1.058	1.070	1.078	1.088	1.096
500	256.8	336.6	388.2	423.9	450.0	469.8	485.3	497.9	508.2	516.4	523.4	529.5	534.9	539.6	543.9	547.7
	.514	.673	.776	.848	.900	.940	.971	.995	1.016	1.033	1.047	1.059	1.070	1.080	1.087	1.095
600	308.2	403.9	465.8	508.7	540.0	563.8	582.4	597.4	609.8	619.7	628.1	635.4	641.9	647.6	652.6	657.2
	.514	.673	.777	.848	.900	.939	.971	.996	1.016	1.032	1.047	1.059	1.069	1.079	1.088	1.095
700	359.6	471.2	543.5	593.5	630.0	657.7	679.5	697.0	711.4	722.9	732.8	741.3	748.8	755.5	761.4	766.7
	.513	.673	.776	.848	.900	.940	.971	.996	1.017	1.033	1.047	1.059	1.070	1.079	1.088	1.096
800	410.9	538.5	621.1	678.3	720.0	751.7	776.6	796.6	813.1	826.2	837.5	847.2	855.8	863.4	870.2	876.3
	.514	.674	.777	.848	.900	.939	.970	.996	1.016	1.033	1.046	1.059	1.070	1.079	1.087	1.095
900	462.3	605.9	698.8	763.1	810.0	845.6	873.6	896.2	914.7	929.5	942.1	953.1	962.8	971.3	978.9	985.8
	.514	.673	.776	.847	.900	.940	.971	.995	1.013	1.035	1.049	1.059	1.072	1.077	1.091	1.092
1000	513.7	673.2	776.4	847.8	900.0	939.6	970.7	995.7	1016.	1033.	1047.	1059.	1070.	1079.	1088.	1095.
	.513	.673	.776	.848	.900	.944	.973	.993	1.02	1.03	1.05	1.06	1.07	1.08	1.08	1.10
1100	565.0	740.5	854.0	932.6	990.0	1034.	1068.	1095.	1118.	1136.	1152.	1165.	1177.	1187.	1196.	1205.
	.5137	.6732	.7764	.8478	.9000	.9396	.9707	.9957	1.016	1.033	1.047	1.059	1.070	1.079	1.088	1.095
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
200	220.4	221.7	222.8	223.8	224.7	226.9	229.7	231.8	233.5	234.8	235.9	237.7	239.0	241.0	242.3	245.4
202	222.6	223.9	225.1	226.0	226.9	229.2	232.1	234.2	235.8	237.2	238.3	240.1	241.4	243.4	244.7	247.9
204	224.8	226.1	227.3	228.3	229.2	231.5	234.4	236.5	238.2	239.6	240.7	242.5	243.8	245.8	247.2	250.4
206	227.0	228.3	229.5	230.6	231.5	233.8	236.7	238.9	240.6	241.9	243.1	244.9	246.2	248.2	249.6	252.9
208	229.3	230.6	231.7	232.8	233.7	236.1	239.0	241.2	242.9	244.3	245.4	247.2	248.6	250.6	252.0	255.4
210	231.5	232.8	234.0	235.1	236.0	238.4	241.3	243.5	245.3	246.6	247.8	249.6	251.0	253.0	254.4	257.9
212	233.7	235.0	236.2	237.3	238.3	240.6	243.6	245.9	247.6	249.0	250.2	252.0	253.4	255.5	256.9	260.4
214	235.9	237.2	238.4	239.5	240.5	242.9	246.0	248.2	250.0	251.4	252.6	254.4	255.8	257.9	259.3	262.9
216	238.1	239.4	240.6	241.8	242.8	245.2	248.3	250.5	252.3	253.7	254.9	256.8	258.2	260.3	261.7	265.4
218	240.3	241.6	242.9	244.0	245.0	247.5	250.6	252.9	254.7	256.1	257.3	259.2	260.6	262.7	264.2	267.9
220	242.5	243.9	245.1	246.3	247.3	249.8	252.9	255.2	257.0	258.5	259.7	261.6	263.0	265.1	266.6	270.4
222	244.7	246.1	247.3	248.5	249.6	252.1	255.2	257.6	259.4	260.8	262.1	264.0	265.4	267.5	269.0	272.9
224	246.9	248.3	249.6	250.7	251.8	254.4	257.6	259.9	261.7	263.2	264.4	266.4	267.8	270.0	271.4	275.4
226	249.1	250.5	251.8	253.0	254.1	256.7	259.9	262.2	264.1	265.6	266.8	268.8	270.2	272.4	273.9	277.8
228	251.3	252.7	254.0	255.2	256.3	259.0	262.2	264.6	266.4	267.9	269.2	271.1	272.6	274.8	276.3	280.3
230	253.5	254.9	256.2	257.4	258.6	261.2	264.5	266.9	268.8	270.3	271.6	273.5	275.0	277.2	278.7	282.8
232	255.7	257.2	258.5	259.7	260.8	263.5	266.8	269.3	271.1	272.7	273.9	275.9	277.5	279.6	281.2	285.3
234	257.9	259.4	260.7	261.9	263.0	265.8	269.1	271.6	273.5	275.0	276.3	278.3	279.9	282.1	283.6	287.8
236	260.1	261.6	262.9	264.2	265.3	268.1	271.5	273.9	275.9	277.4	278.7	280.7	282.3	284.5	286.0	290.3
238	262.3	263.8	265.2	266.4	267.5	270.4	273.8	276.3	278.2	279.8	281.1	283.1	284.7	286.9	288.5	292.8
240	264.5	266.0	267.4	268.6	269.8	272.7	276.1	278.6	280.6	282.1	283.4	285.5	287.1	289.3	290.9	295.3
242	266.7	268.2	269.6	270.9	272.0	275.0	278.4	281.0	282.9	284.5	285.8	287.9	289.5	291.7	293.3	297.8
244	268.9	270.5	271.8	273.1	274.3	277.3	280.7	283.3	285.3	286.9	288.2	290.3	291.9	294.2	295.7	300.3
246	271.1	272.7	274.1	275.4	276.5	279.6	283.1	285.6	287.6	289.2	290.6	292.7	294.3	296.6	298.2	302.8
248	273.3	274.9	276.3	277.6	278.8	281.8	285.4	288.0	290.0	291.6	293.0	295.1	296.7	299.0	300.6	305.3
250	275.5	277.1	278.5	279.8	281.0	284.1	287.7	290.3	292.3	294.0	295.3	297.5	299.1	301.4	303.0	307.8
	1.104	1.108	1.114	1.120	1.124	1.138	1.160	1.170	1.178	1.184	1.190	1.196	1.202	1.210	1.216	1.250
300	330.7	332.5	334.2	335.8	337.2	341.0	345.7	348.8	351.2	353.2	354.8	357.3	359.2	361.9	363.8	370.3
	1.102	1.108	1.114	1.120	1.124	1.136	1.152	1.172	1.180	1.186	1.190	1.198	1.204	1.212	1.216	1.248
350	385.8	387.9	389.9	391.8	393.4	397.8	403.3	407.4	410.2	412.5	414.3	417.2	419.4	422.5	424.6	432.7
	1.102	1.110	1.114	1.118	1.126	1.136	1.152	1.164	1.180	1.184	1.190	1.198	1.204	1.210	1.218	1.250
400	440.9	443.4	445.6	447.7	449.7	454.6	460.9	465.6	469.2	471.7	473.8	477.1	479.6	483.0	485.5	495.2
	1.102	1.108	1.116	1.120	1.124	1.136	1.152	1.162	1.172	1.186	1.192	1.200	1.204	1.214	1.216	1.250
450	496.0	498.8	501.4	503.7	505.9	511.4	518.5	523.7	527.8	531.0	533.4	537.1	539.8	543.7	546.3	557.7
	1.102	1.108	1.114	1.120	1.124	1.138	1.152	1.164	1.174	1.182	1.192	1.198	1.204	1.212	1.218	1.250
500	551.1	554.2	557.1	559.7	562.1	568.3	576.1	581.9	586.5	590.1	593.0	597.0	600.0	604.3	607.2	620.2
	1.102	1.109	1.114	1.119	1.124	1.136	1.152	1.164	1.172	1.180	1.186	1.201	1.206	1.213	1.218	1.249
600	661.3	665.1	668.5	671.6	674.5	681.9	691.3	698.3	703.7	708.1	711.6	717.1	720.6	725.6	729.0	745.1
	1.102	1.108	1.114	1.119	1.124	1.137	1.153	1.164	1.173	1.180	1.186	1.195	1.207	1.214	1.219	1.250
700	771.5	775.9	779.9	783.5	786.9	795.6	806.6	814.7	821.0	826.1	830.2	836.6	841.3	847.0	850.9	870.1
	1.102	1.108	1.114	1.120	1.124	1.136	1.152	1.164	1.173	1.180	1.186	1.195	1.201	1.215	1.220	1.250
800	881.7	886.7	891.3	895.5	899.3	909.2	921.8	931.1	938.3	944.1	948.8	956.1	961.4	968.5	972.9	995.1
	1.103	1.109	1.117	1.115	1.127	1.138	1.152	1.159	1.177	1.179	1.182	1.199	1.206	1.215	1.221	1.249
900	992.0	997.6	1003.	1007.	1012.	1023.	1037.	1047.	1056.	1062.	1067.	1076.	1082.	1090.	1095.	1120.
	1.100	1.104	1.11	1.12	1.12	1.14	1.15	1.17	1.17	1.18	1.19	1.19	1.20	1.21	1.22	1.25
1000	1102.	1108.	1114.	1119.	1124.	1137.	1152.	1164.	1173.	1180.	1186.	1195.	1202.	1211.	1217.	1245.
	1.10	1.11	1.12	1.12	1.13	1.13	1.15	1.16	1.17	1.18	1.19	1.20	1.20	1.21	1.22	1.25
1100	1212.	1219.	1226.	1231.	1237.	1250.	1267.	1280.	1290.	1298.	1305.	1315.	1322.	1332.	1339.	1370.
	1.102	1.108	1.114	1.119	1.124	1.137	1.152	1.164	1.173	1.180	1.186	1.195	1.202	1.211	1.217	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	1.45															
3	2.19	2.63														
4	2.94	3.53	3.89													
5	3.67	4.43	4.88	5.19												
6	4.41	5.34	5.88	6.25	6.51											
7	5.14	6.26	6.88	7.31	7.62	7.86										
8	5.88	7.17	7.89	8.37	8.72	8.99	9.21									
9	6.61	8.09	8.89	9.43	9.83	10.1	10.4	10.6								
10	7.35	8.99	9.90	10.5	10.9	11.3	11.5	11.8	12.0							
11	8.08	9.89	10.9	11.6	12.1	12.4	12.7	13.0	13.2	13.3						
12	8.82	10.8	11.9	12.6	13.2	13.6	13.9	14.2	14.4	14.6	14.7					
13	9.55	11.7	12.9	13.7	14.3	14.7	15.1	15.3	15.6	15.8	16.0	16.1				
14	10.3	12.6	14.0	14.8	15.4	15.9	16.2	16.5	16.8	17.0	17.2	17.4	17.5			
15	11.0	13.5	15.0	15.9	16.5	17.0	17.4	17.7	18.0	18.2	18.4	18.6	18.8	18.9		
16	11.8	14.4	16.0	17.0	17.6	18.2	18.6	18.9	19.2	19.5	19.7	19.9	20.0	20.2	20.3	
17	12.5	15.3	17.0	18.0	18.8	19.3	19.8	20.1	20.4	20.7	20.9	21.1	21.3	21.4	21.6	21.7
18	13.2	16.2	18.0	19.1	19.9	20.5	20.9	21.3	21.7	21.9	22.2	22.4	22.5	22.7	22.9	23.0
19	14.0	17.1	19.0	20.2	21.0	21.6	22.1	22.5	22.9	23.2	23.4	23.6	23.8	24.0	24.1	24.3
20	14.7	18.0	20.0	21.3	22.1	22.8	23.3	23.7	24.1	24.4	24.6	24.9	25.1	25.3	25.4	25.6
21	15.4	18.9	21.0	22.4	23.3	23.9	24.5	24.9	25.3	25.6	25.9	26.1	26.3	26.5	26.7	26.8
22	16.2	19.8	22.0	23.5	24.4	25.1	25.7	26.1	26.5	26.9	27.1	27.4	27.6	27.8	28.0	28.1
23	16.9	20.7	23.0	24.5	25.5	26.3	26.9	27.3	27.7	28.1	28.4	28.6	28.9	29.1	29.2	29.4
24	17.6	21.6	24.0	25.6	26.6	27.4	28.0	28.5	29.0	29.3	29.6	29.9	30.1	30.3	30.5	30.7
25	18.4	22.5	25.0	26.7	27.8	28.6	29.2	29.7	30.2	30.6	30.9	31.2	31.4	31.6	31.8	32.0
26	19.1	23.4	26.0	27.8	28.9	29.7	30.4	31.0	31.4	31.8	32.1	32.4	32.7	32.9	33.1	33.3
27	19.8	24.3	27.0	28.8	30.0	30.9	31.6	32.2	32.6	33.0	33.4	33.7	33.9	34.2	34.4	34.6
28	20.6	25.2	28.0	29.9	31.2	32.1	32.8	33.4	33.9	34.3	34.6	34.9	35.2	35.4	35.7	35.9
29	21.3	26.1	29.0	31.0	32.3	33.2	34.0	34.6	35.1	35.5	35.9	36.2	36.5	36.7	36.9	37.1
30	22.0	27.0	30.0	32.1	33.4	34.4	35.2	35.8	36.3	36.7	37.1	37.4	37.7	38.0	38.2	38.4
31	22.8	27.9	31.0	33.1	34.6	35.6	36.4	37.0	37.5	38.0	38.4	38.7	39.0	39.3	39.5	39.7
32	23.5	28.8	32.0	34.2	35.7	36.7	37.5	38.2	38.8	39.2	39.6	40.0	40.3	40.5	40.8	41.0
33	24.3	29.7	33.0	35.3	36.8	37.9	38.7	39.4	40.0	40.5	40.9	41.2	41.5	41.8	42.1	42.3
34	25.0	30.6	34.0	36.3	38.0	39.1	39.9	40.6	41.2	41.7	42.1	42.5	42.8	43.1	43.4	43.6
35	25.7	31.5	35.0	37.4	39.1	40.2	41.1	41.8	42.4	42.9	43.4	43.8	44.1	44.4	44.6	44.9
36	26.5	32.4	36.0	38.5	40.2	41.4	42.3	43.0	43.7	44.2	44.6	45.0	45.4	45.7	45.9	46.2
37	27.2	33.3	37.0	39.5	41.3	42.6	43.5	44.3	44.9	45.4	45.9	46.3	46.6	46.9	47.2	47.5
38	27.9	34.2	38.0	40.6	42.5	43.7	44.7	45.5	46.1	46.7	47.1	47.5	47.9	48.2	48.5	48.8
39	28.7	35.1	39.0	41.7	43.6	44.9	45.9	46.7	47.3	47.9	48.4	48.8	49.2	49.5	49.8	50.1
40	29.4	36.0	40.0	42.7	44.7	46.1	47.1	47.9	48.6	49.1	49.6	50.1	50.4	50.8	51.1	51.4
41	30.1	36.9	41.0	43.8	45.8	47.2	48.3	49.1	49.8	50.4	50.9	51.3	51.7	52.1	52.4	52.6
42	30.9	37.8	42.0	44.9	46.9	48.4	49.5	50.3	51.0	51.6	52.1	52.6	53.0	53.3	53.7	53.9
43	31.6	38.7	43.0	45.9	48.1	49.6	50.6	51.5	52.3	52.9	53.4	53.9	54.3	54.6	54.9	55.2
44	32.3	39.6	44.0	47.0	49.2	50.7	51.8	52.7	53.5	54.1	54.7	55.1	55.5	55.9	56.2	56.5
45	33.1	40.5	45.0	48.1	50.3	51.9	53.0	53.9	54.7	55.4	55.9	56.4	56.8	57.2	57.5	57.8
46	33.8	41.4	46.0	49.1	51.4	53.1	54.2	55.2	55.9	56.6	57.2	57.7	58.1	58.5	58.8	59.1
47	34.5	42.3	47.0	50.2	52.5	54.2	55.4	56.4	57.2	57.8	58.4	58.9	59.4	59.7	60.1	60.4
48	35.3	43.2	48.0	51.3	53.6	55.4	56.6	57.6	58.4	59.1	59.7	60.2	60.6	61.0	61.4	61.7
49	36.0	44.1	49.0	52.4	54.8	56.6	57.8	58.8	59.6	60.3	60.9	61.4	61.9	62.3	62.7	63.0
50	36.7	45.0	50.0	53.4	55.9	57.7	59.0	60.0	60.9	61.6	62.2	62.7	63.2	63.6	64.0	64.3
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

k																k=N	N
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
															.429	1
															1.45	2
															2.63	3
															3.89	4
															5.19	5
															6.51	6
															7.86	7
															9.21	8
															10.6	9
															12.0	10
															13.3	11
															14.7	12
															16.1	13
															17.5	14
															18.9	15
															20.3	16
															21.7	17
23.1															23.1	18
24.4	24.5														24.5	19
25.7	25.8	25.9													25.9	20
27.0	27.1	27.2	27.3												27.3	21
28.3	28.4	28.5	28.6	28.7											28.7	22
29.6	29.7	29.8	29.9	30.0											30.1	23
30.9	31.0	31.1	31.2	31.4											31.6	24
32.2	32.3	32.4	32.6	32.7	33.0										33.0	25
33.4	33.6	33.7	33.9	34.0	34.3										34.4	26
34.7	34.9	35.0	35.2	35.3	35.6										35.8	27
36.0	36.2	36.3	36.5	36.6	36.9										37.2	28
37.3	37.5	37.7	37.8	37.9	38.3										38.6	29
38.6	38.8	39.0	39.1	39.2	39.6	40.0									40.0	30
39.9	40.1	40.3	40.4	40.6	40.9	41.4									41.5	31
41.2	41.4	41.6	41.7	41.9	42.2	42.7									42.9	32
42.5	42.7	42.9	43.0	43.2	43.6	44.1									44.3	33
43.8	44.0	44.2	44.3	44.5	44.9	45.4									45.7	34
45.1	45.3	45.5	45.7	45.8	46.2	46.7	47.1								47.1	35
46.4	46.6	46.8	47.0	47.1	47.5	48.1	48.5								48.6	36
47.7	47.9	48.1	48.3	48.4	48.9	49.4	49.8								50.0	37
49.0	49.2	49.4	49.6	49.8	50.2	50.8	51.2								51.4	38
50.3	50.5	50.7	50.9	51.1	51.5	52.1	52.5								52.8	39
51.6	51.8	52.0	52.2	52.4	52.9	53.4	53.9	54.2							54.2	40
52.9	53.1	53.3	53.5	53.7	54.2	54.8	55.2	55.6							55.7	41
54.2	54.4	54.7	54.9	55.0	55.5	56.1	56.6	57.0							57.1	42
55.5	55.7	56.0	56.2	56.4	56.8	57.5	57.9	58.3							58.5	43
56.8	57.0	57.3	57.5	57.7	58.2	58.8	59.3	59.7							59.9	44
58.1	58.4	58.6	58.8	59.0	59.5	60.2	60.6	61.0	61.3						61.3	45
59.4	59.7	59.9	60.1	60.3	60.8	61.5	62.0	62.4	62.7						62.8	46
60.7	61.0	61.2	61.4	61.6	62.2	62.8	63.3	63.8	64.1						64.2	47
62.0	62.3	62.5	62.7	62.9	63.5	64.2	64.7	65.1	65.4						65.6	48
63.3	63.6	63.8	64.1	64.3	64.8	65.5	66.1	66.5	66.8						67.0	49
64.6	64.9	65.1	65.4	65.6	66.1	66.9	67.4	67.8	68.2	68.5					68.5	50
18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
k																

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	36.7	45.0	50.0	53.4	55.9	57.7	59.0	60.0	60.9	61.6	62.2	62.7	63.2	63.6	64.0	64.3
51	37.5	45.9	51.0	54.5	57.0	58.9	60.2	61.2	62.1	62.8	63.4	64.0	64.5	64.9	65.3	65.6
52	38.2	46.8	52.0	55.6	58.1	60.0	61.4	62.4	63.3	64.1	64.7	65.2	65.7	66.2	66.5	66.9
53	38.9	47.7	53.0	56.6	59.2	61.2	62.6	63.7	64.6	65.3	66.0	66.5	67.0	67.4	67.8	68.2
54	39.7	48.6	54.0	57.7	60.3	62.3	63.8	64.9	65.8	66.6	67.2	67.8	68.3	68.7	69.1	69.5
55	40.4	49.5	55.0	58.8	61.5	63.5	65.0	66.1	67.0	67.8	68.5	69.0	69.6	70.0	70.4	70.8
56	41.2	50.4	56.0	59.8	62.6	64.6	66.2	67.3	68.2	69.0	69.7	70.3	70.8	71.3	71.7	72.1
57	41.9	51.3	57.0	60.9	63.7	65.8	67.4	68.5	69.5	70.3	71.0	71.6	72.1	72.6	73.0	73.4
58	42.6	52.1	58.0	62.0	64.8	67.0	68.6	69.7	70.7	71.5	72.2	72.9	73.4	73.9	74.3	74.7
59	43.4	53.0	59.0	63.0	65.9	68.1	69.7	71.0	71.9	72.8	73.5	74.1	74.7	75.1	75.6	76.0
60	44.1	53.9	60.0	64.1	67.0	69.3	70.9	72.2	73.2	74.0	74.8	75.4	75.9	76.4	76.9	77.3
61	44.8	54.8	61.0	65.2	68.2	70.4	72.1	73.4	74.4	75.3	76.0	76.7	77.2	77.7	78.2	78.6
62	45.6	55.7	62.0	66.2	69.3	71.6	73.3	74.6	75.6	76.5	77.3	77.9	78.5	79.0	79.5	79.9
63	46.3	56.6	63.0	67.3	70.4	72.7	74.5	75.8	76.9	77.8	78.5	79.2	79.8	80.3	80.7	81.2
64	47.0	57.5	64.0	68.4	71.5	73.9	75.7	77.0	78.1	79.0	79.8	80.5	81.1	81.6	82.0	82.5
65	47.8	58.4	65.0	69.4	72.6	75.0	76.9	78.2	79.3	80.3	81.0	81.7	82.3	82.9	83.3	83.8
66	48.5	59.3	66.0	70.5	73.8	76.2	78.1	79.5	80.6	81.5	82.3	83.0	83.6	84.1	84.6	85.1
67	49.2	60.2	67.0	71.6	74.9	77.3	79.3	80.7	81.8	82.8	83.6	84.3	84.9	85.4	85.9	86.4
68	50.0	61.1	68.0	72.7	76.0	78.5	80.5	81.9	83.0	84.0	84.8	85.5	86.2	86.7	87.2	87.7
69	50.7	62.0	69.0	73.7	77.1	79.7	81.6	83.1	84.3	85.3	86.1	86.8	87.4	88.0	88.5	89.0
70	51.4	62.9	70.0	74.8	78.2	80.8	82.8	84.3	85.5	86.5	87.3	88.1	88.7	89.3	89.8	90.3
71	52.2	63.8	71.0	75.9	79.3	82.0	84.0	85.5	86.7	87.7	88.6	89.3	90.0	90.6	91.1	91.6
72	52.9	64.7	72.0	76.9	80.5	83.1	85.2	86.8	88.0	89.0	89.9	90.6	91.3	91.9	92.4	92.9
73	53.6	65.6	73.0	78.0	81.6	84.3	86.4	88.0	89.2	90.2	91.1	91.9	92.6	93.1	93.7	94.2
74	54.4	66.5	74.0	79.1	82.7	85.4	87.6	89.2	90.4	91.5	92.4	93.2	93.8	94.4	95.0	95.5
75	55.1	67.4	75.0	80.1	83.8	86.6	88.7	90.4	91.7	92.7	93.6	94.4	95.1	95.7	96.3	96.8
76	55.9	68.3	76.0	81.2	84.9	87.7	89.9	91.6	92.9	94.0	94.9	95.7	96.4	97.0	97.6	98.1
77	56.6	69.2	77.0	82.3	86.0	88.9	91.1	92.8	94.1	95.2	96.2	97.0	97.7	98.3	98.9	99.4
78	57.3	70.1	78.0	83.3	87.2	90.0	92.3	94.1	95.4	96.5	97.4	98.2	99.0	99.6	100.1	100.7
79	58.1	71.0	79.0	84.4	88.3	91.2	93.5	95.3	96.6	97.7	98.7	99.5	100.2	100.9	101.4	102.0
80	58.8	71.9	80.0	85.5	89.4	92.3	94.7	96.5	97.8	99.0	99.9	100.8	101.5	102.2	102.7	103.3
81	59.5	72.8	81.0	86.5	90.5	93.5	95.8	97.7	99.1	100.2	101.2	102.0	102.8	103.4	104.0	104.6
82	60.3	73.7	82.0	87.6	91.6	94.7	97.0	98.9	100.3	101.5	102.5	103.3	104.1	104.7	105.3	105.9
83	61.0	74.6	83.0	88.7	92.7	95.8	98.2	100.1	101.5	102.7	103.7	104.6	105.3	106.0	106.6	107.2
84	61.7	75.5	84.0	89.7	93.9	97.0	99.4	101.3	102.8	104.0	105.0	105.9	106.6	107.3	107.9	108.5
85	62.5	76.4	85.0	90.8	95.0	98.1	100.6	102.5	104.0	105.2	106.2	107.1	107.9	108.6	109.2	109.8
86	63.2	77.3	86.0	91.9	96.1	99.3	101.8	103.7	105.2	106.5	107.5	108.4	109.2	109.9	110.5	111.1
87	63.9	78.2	87.0	93.0	97.2	100.4	102.9	104.9	106.5	107.7	108.8	109.7	110.5	111.2	111.8	112.4
88	64.7	79.1	88.0	94.0	98.3	101.6	104.1	106.2	107.7	109.0	110.0	110.9	111.7	112.5	113.1	113.7
89	65.4	80.0	89.0	95.1	99.5	102.7	105.3	107.4	108.9	110.2	111.3	112.2	113.0	113.7	114.4	115.0
90	66.1	80.9	90.0	96.2	100.6	103.9	106.5	108.6	110.2	111.5	112.5	113.5	114.3	115.0	115.7	116.3
91	66.9	81.8	91.0	97.2	101.7	105.0	107.7	109.8	111.4	112.7	113.8	114.8	115.6	116.3	117.0	117.6
92	67.6	82.7	92.0	98.3	102.8	106.2	108.9	111.0	112.7	114.0	115.1	116.0	116.9	117.6	118.3	118.9
93	68.3	83.6	93.0	99.4	103.9	107.4	110.0	112.2	113.9	115.2	116.3	117.3	118.2	118.9	119.6	120.2
94	69.1	84.5	94.0	100.4	105.0	108.5	111.2	113.4	115.1	116.5	117.6	118.6	119.4	120.2	120.9	121.5
95	69.8	85.4	95.0	101.5	106.2	109.7	112.4	114.6	116.4	117.7	118.9	119.8	120.7	121.5	122.2	122.8
96	70.5	86.3	96.0	102.6	107.3	110.8	113.6	115.8	117.6	119.0	120.1	121.1	122.0	122.8	123.5	124.1
97	71.3	87.2	97.0	103.6	108.4	112.0	114.8	117.0	118.8	120.2	121.4	122.4	123.3	124.1	124.7	125.4
98	72.0	88.1	98.0	104.7	109.5	113.1	116.0	118.2	120.1	121.5	122.6	123.7	124.6	125.3	126.0	126.7
99	72.8	89.0	99.0	105.8	110.6	114.3	117.1	119.4	121.3	122.7	123.9	124.9	125.8	126.6	127.3	128.0
100	73.5	89.9	100.0	106.8	111.7	115.4	118.3	120.6	122.5	123.9	125.2	126.2	127.1	127.9	128.6	129.3
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
50	64.6	64.9	65.1	65.4	65.6	66.1	66.9	67.4	67.8	68.2	68.5					68.5	50
51	65.9	66.2	66.4	66.7	66.9	67.5	68.2	68.8	69.2	69.5	69.8					69.9	51
52	67.2	67.5	67.8	68.0	68.2	68.8	69.5	70.1	70.6	70.9	71.2					71.3	52
53	68.5	68.8	69.1	69.3	69.5	70.1	70.9	71.5	71.9	72.3	72.6					72.7	53
54	69.8	70.1	70.4	70.6	70.9	71.5	72.2	72.8	73.3	73.6	73.9					74.2	54
55	71.1	71.4	71.7	71.9	72.2	72.8	73.6	74.2	74.6	75.0	75.3					75.6	55
56	72.4	72.7	73.0	73.3	73.5	74.1	74.9	75.5	76.0	76.4	76.7					77.0	56
57	73.7	74.0	74.3	74.6	74.8	75.4	76.3	76.9	77.4	77.7	78.1					78.4	57
58	75.0	75.3	75.6	75.9	76.1	76.8	77.6	78.2	78.7	79.1	79.4					79.8	58
59	76.3	76.6	76.9	77.2	77.5	78.1	78.9	79.6	80.1	80.5	80.8					81.3	59
60	77.6	78.0	78.3	78.5	78.8	79.4	80.3	80.9	81.4	81.8	82.2	82.7				82.7	60
61	78.9	79.3	79.6	79.8	80.1	80.8	81.6	82.3	82.8	83.2	83.5	84.1				84.1	61
62	80.2	80.6	80.9	81.2	81.4	82.1	83.0	83.6	84.2	84.6	84.9	85.5				85.5	62
63	81.5	81.9	82.2	82.5	82.7	83.4	84.3	85.0	85.5	85.9	86.3	86.8				87.0	63
64	82.8	83.2	83.5	83.8	84.1	84.8	85.7	86.3	86.9	87.3	87.7	88.2				88.4	64
65	84.1	84.5	84.8	85.1	85.4	86.1	87.0	87.7	88.2	88.7	89.0	89.6				89.8	65
66	85.4	85.8	86.1	86.4	86.7	87.4	88.4	89.1	89.6	90.0	90.4	91.0				91.2	66
67	86.8	87.1	87.4	87.7	88.0	88.8	89.7	90.4	91.0	91.4	91.8	92.4				92.7	67
68	88.1	88.4	88.8	89.1	89.4	90.1	91.0	91.8	92.3	92.8	93.2	93.7				94.1	68
69	89.4	89.7	90.1	90.4	90.7	91.4	92.4	93.1	93.7	94.1	94.5	95.1				95.5	69
70	90.7	91.0	91.4	91.7	92.0	92.8	93.7	94.5	95.0	95.5	95.9	96.5	96.9			96.9	70
71	92.0	92.4	92.7	93.0	93.3	94.1	95.1	95.8	96.4	96.9	97.3	97.9	98.3			98.4	71
72	93.3	93.7	94.0	94.3	94.6	95.4	96.4	97.2	97.8	98.2	98.6	99.3	99.7			99.8	72
73	94.6	95.0	95.3	95.7	96.0	96.8	97.8	98.5	99.1	99.6	100.0	100.6	101.1			101.2	73
74	95.9	96.3	96.6	97.0	97.3	98.1	99.1	99.9	100.5	101.0	101.4	102.0	102.5			102.7	74
75	97.2	97.6	98.0	98.3	98.6	99.4	100.5	101.2	101.9	102.3	102.8	103.4	103.9			104.1	75
76	98.5	98.9	99.3	99.6	99.9	100.7	101.8	102.6	103.2	103.7	104.1	104.8	105.3			105.5	76
77	99.8	100.2	100.6	100.9	101.3	102.1	103.1	103.9	104.6	105.1	105.5	106.2	106.7			106.9	77
78	101.1	101.5	101.9	102.3	102.6	103.4	104.5	105.3	105.9	106.5	106.9	107.5	108.0			108.4	78
79	102.4	102.8	103.2	103.6	103.9	104.7	105.8	106.7	107.3	107.8	108.3	108.9	109.4			109.8	79
80	103.7	104.1	104.5	104.9	105.2	106.1	107.2	108.0	108.7	109.2	109.6	110.3	110.8			111.2	80
81	105.0	105.5	105.9	106.2	106.5	107.4	108.5	109.4	110.0	110.6	111.0	111.7	112.2			112.6	81
82	106.3	106.8	107.2	107.5	107.9	108.7	109.9	110.7	111.4	111.9	112.4	113.1	113.6			114.1	82
83	107.6	108.1	108.5	108.9	109.2	110.1	111.2	112.1	112.7	113.3	113.7	114.4	115.0			115.5	83
84	108.9	109.4	109.8	110.2	110.5	111.4	112.6	113.4	114.1	114.7	115.1	115.8	116.4			116.9	84
85	110.2	110.7	111.1	111.5	111.8	112.7	113.9	114.8	115.5	116.0	116.5	117.2	117.7			118.3	85
86	111.6	112.0	112.4	112.8	113.2	114.1	115.3	116.1	116.8	117.4	117.9	118.6	119.1			119.8	86
87	112.9	113.3	113.7	114.1	114.5	115.4	116.6	117.5	118.2	118.8	119.2	120.0	120.5			121.2	87
88	114.2	114.6	115.1	115.5	115.8	116.7	117.9	118.9	119.6	120.1	120.6	121.4	121.9			122.6	88
89	115.5	115.9	116.4	116.8	117.1	118.1	119.3	120.2	120.9	121.5	122.0	122.7	123.3			124.0	89
90	116.8	117.3	117.7	118.1	118.5	119.4	120.6	121.6	122.3	122.9	123.4	124.1	124.7	125.5		125.5	90
91	118.1	118.6	119.0	119.4	119.8	120.7	122.0	122.9	123.6	124.2	124.7	125.5	126.1	126.9		126.9	91
92	119.4	119.9	120.3	120.7	121.1	122.1	123.3	124.3	125.0	125.6	126.1	126.9	127.5	128.3		128.3	92
93	120.7	121.2	121.6	122.1	122.4	123.4	124.7	125.6	126.4	127.0	127.5	128.3	128.8	129.7		129.7	93
94	122.0	122.5	123.0	123.4	123.8	124.8	126.0	127.0	127.7	128.3	128.9	129.6	130.2	131.0		131.2	94
95	123.3	123.8	124.3	124.7	125.1	126.1	127.4	128.3	129.1	129.7	130.2	131.0	131.6	132.4		132.6	95
96	124.6	125.1	125.6	126.0	126.4	127.4	128.7	129.7	130.5	131.1	131.6	132.4	133.0	133.8		134.0	96
97	125.9	126.4	126.9	127.3	127.7	128.8	130.1	131.1	131.8	132.5	133.0	133.8	134.4	135.2		135.5	97
98	127.2	127.8	128.2	128.7	129.1	130.1	131.4	132.4	133.2	133.8	134.3	135.2	135.8	136.6		136.9	98
99	128.5	129.1	129.5	130.0	130.4	131.4	132.8	133.8	134.6	135.2	135.7	136.5	137.2	138.0		138.3	99
100	129.9	130.4	130.9	131.3	131.7	132.8	134.1	135.1	135.9	136.6	137.1	137.9	138.5	139.4		139.7	100
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	73.5	89.9	100.0	106.8	111.7	115.4	118.3	120.6	122.5	123.9	125.2	126.2	127.1	127.9	128.6	129.3
102	75.0	91.7	102.0	109.0	114.0	117.7	120.7	123.0	125.0	126.4	127.7	128.7	129.7	130.5	131.2	131.9
104	76.4	93.5	104.0	111.1	116.2	120.1	123.0	125.5	127.4	128.9	130.2	131.3	132.2	133.1	133.8	134.5
106	77.9	95.3	106.0	113.3	118.4	122.4	125.4	127.9	129.9	131.4	132.7	133.8	134.8	135.7	136.4	137.1
108	79.4	97.1	108.0	115.4	120.7	124.7	127.8	130.3	132.3	133.9	135.2	136.4	137.4	138.2	139.0	139.7
110	80.8	98.9	110.0	117.5	122.9	127.0	130.1	132.7	134.8	136.4	137.8	138.9	139.9	140.8	141.6	142.3
112	82.3	100.7	112.0	119.7	125.2	129.3	132.5	135.1	137.2	138.9	140.3	141.5	142.5	143.4	144.2	144.9
114	83.8	102.5	114.0	121.8	127.4	131.6	134.9	137.5	139.7	141.4	142.8	144.0	145.1	146.0	146.8	147.5
116	85.2	104.3	116.0	123.9	129.6	133.9	137.2	139.9	142.1	143.9	145.3	146.6	147.6	148.5	149.4	150.1
118	86.7	106.1	118.0	126.1	131.9	136.2	139.6	142.3	144.6	146.4	147.9	149.1	150.2	151.1	152.0	152.7
120	88.2	107.9	120.0	128.2	134.1	138.5	142.0	144.8	147.0	148.8	150.4	151.6	152.7	153.7	154.6	155.3
122	89.7	109.7	122.0	130.3	136.3	140.8	144.3	147.2	149.5	151.3	152.9	154.2	155.3	156.3	157.2	157.9
124	91.1	111.5	124.0	132.5	138.6	143.1	146.7	149.6	151.9	153.8	155.4	156.7	157.9	158.9	159.7	160.5
126	92.6	113.3	126.0	134.6	140.8	145.5	149.1	152.0	154.4	156.3	157.9	159.3	160.4	161.4	162.3	163.1
128	94.1	115.1	128.0	136.8	143.0	147.8	151.4	154.4	156.8	158.8	160.4	161.8	163.0	164.0	164.9	165.8
130	95.5	116.9	130.0	138.9	145.3	150.1	153.8	156.8	159.3	161.2	162.9	164.4	165.6	166.6	167.5	168.4
132	97.0	118.7	132.0	141.0	147.5	152.4	156.2	159.2	161.7	163.7	165.4	166.9	168.1	169.2	170.1	171.0
134	98.5	120.5	134.0	143.2	149.7	154.7	158.5	161.6	164.2	166.2	167.9	169.4	170.7	171.8	172.7	173.6
136	99.9	122.3	136.0	145.3	152.0	157.0	160.9	164.1	166.6	168.7	170.4	172.0	173.2	174.3	175.3	176.2
138	101.4	124.1	138.0	147.4	154.2	159.3	163.3	166.5	169.1	171.2	172.9	174.5	175.8	176.9	177.9	178.8
140	102.9	125.9	140.0	149.6	156.4	161.6	165.6	168.9	171.5	173.6	175.4	177.0	178.4	179.5	180.5	181.4
142	104.4	127.7	142.0	151.7	158.7	163.9	168.0	171.3	174.0	176.1	178.0	179.5	180.9	182.1	183.1	184.0
144	105.8	129.5	144.0	153.9	160.9	166.2	170.4	173.7	176.4	178.6	180.5	182.1	183.5	184.7	185.7	186.6
146	107.3	131.3	146.0	156.0	163.1	168.5	172.7	176.1	178.9	181.1	183.0	184.6	186.0	187.2	188.3	189.2
148	108.8	133.1	148.0	158.1	165.4	170.8	175.1	178.5	181.3	183.6	185.5	187.1	188.6	189.8	190.9	191.8
150	110.2	134.9	150.0	160.3	167.6	173.2	177.5	180.9	183.8	186.0	188.0	189.7	191.1	192.4	193.5	194.4
152	111.7	136.7	152.0	162.4	169.9	175.5	179.8	183.4	186.2	188.5	190.5	192.2	193.7	195.0	196.1	197.0
154	113.2	138.5	154.0	164.5	172.1	177.8	182.2	185.8	188.7	191.0	193.0	194.7	196.2	197.5	198.7	199.7
156	114.6	140.3	156.0	166.7	174.3	180.1	184.6	188.2	191.1	193.5	195.5	197.2	198.8	200.1	201.3	202.3
158	116.1	142.1	158.0	168.8	176.6	182.4	186.9	190.6	193.6	196.0	198.0	199.8	201.3	202.7	203.9	204.9
160	117.6	143.9	160.0	170.9	178.8	184.7	189.3	193.0	196.0	198.5	200.5	202.3	203.9	205.2	206.5	207.5
162	119.1	145.7	162.0	173.1	181.0	187.0	191.7	195.4	198.5	200.9	203.0	204.8	206.4	207.8	209.0	210.1
164	120.5	147.5	164.0	175.2	183.3	189.3	194.0	197.8	200.9	203.4	205.5	207.4	209.0	210.4	211.6	212.7
166	122.0	149.3	166.0	177.4	185.5	191.6	196.4	200.2	203.4	205.9	208.0	209.9	211.5	212.9	214.2	215.3
168	123.5	151.1	168.0	179.5	187.7	193.9	198.8	202.7	205.8	208.4	210.5	212.4	214.0	215.5	216.8	217.9
170	124.9	152.9	170.0	181.6	190.0	196.2	201.1	205.1	208.3	210.9	213.0	214.9	216.6	218.1	219.4	220.5
172	126.4	154.6	172.0	183.8	192.2	198.6	203.5	207.5	210.7	213.3	215.6	217.5	219.1	220.6	221.9	223.1
174	127.9	156.4	174.0	185.9	194.4	200.9	205.9	209.9	213.2	215.8	218.1	220.0	221.7	223.2	224.5	225.7
176	129.3	158.2	176.0	188.0	196.7	203.2	208.2	212.3	215.6	218.3	220.6	222.5	224.2	225.8	227.1	228.3
178	130.8	160.0	178.0	190.2	198.9	205.5	210.6	214.7	218.1	220.8	223.1	225.1	226.8	228.3	229.7	230.9
180	132.3	161.8	180.0	192.3	201.1	207.8	213.0	217.1	220.5	223.3	225.6	227.6	229.3	230.9	232.3	233.5
182	133.8	163.6	182.0	194.5	203.4	210.1	215.3	219.5	223.0	225.7	228.1	230.1	231.9	233.4	234.8	236.1
184	135.2	165.4	184.0	196.6	205.6	212.4	217.7	222.0	225.4	228.2	230.6	232.6	234.4	236.0	237.4	238.7
186	136.7	167.2	186.0	198.7	207.8	214.7	220.1	224.4	227.9	230.7	233.1	235.2	237.0	238.6	240.0	241.3
188	138.2	169.0	188.0	200.9	210.1	217.0	222.4	226.8	230.3	233.2	235.6	237.7	239.5	241.1	242.6	243.9
190	139.6	170.8	190.0	203.0	212.3	219.3	224.8	229.2	232.8	235.7	238.1	240.2	242.1	243.7	245.2	246.5
192	141.1	172.6	192.0	205.1	214.6	221.6	227.2	231.6	235.2	238.1	240.6	242.8	244.6	246.3	247.7	249.1
194	142.6	174.4	194.0	207.3	216.8	223.9	229.5	234.0	237.7	240.6	243.1	245.3	247.2	248.8	250.3	251.6
196	144.0	176.2	196.0	209.4	219.0	226.3	231.9	236.4	240.1	243.1	245.6	247.8	249.7	251.4	252.9	254.2
198	145.5	178.0	198.0	211.5	221.3	228.6	234.3	238.8	242.6	245.6	248.1	250.3	252.3	254.0	255.5	256.8
200	147.0	179.8	200.0	213.7	223.5	230.9	236.6	241.3	245.0	248.1	250.6	252.9	254.8	256.5	258.1	259.4
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
100	129.9	130.4	130.9	131.3	131.7	132.8	134.1	135.1	135.9	136.6	137.1	137.9	138.5	139.4		139.7
102	132.5	133.0	133.5	133.9	134.4	135.4	136.8	137.8	138.6	139.3	139.8	140.7	141.3	142.2		142.6
104	135.1	135.6	136.1	136.6	137.0	138.1	139.5	140.5	141.4	142.0	142.6	143.5	144.1	145.0		145.4
106	137.7	138.3	138.8	139.2	139.7	140.8	142.2	143.3	144.1	144.8	145.3	146.2	146.9	147.8		148.3
108	140.3	140.9	141.4	141.9	142.3	143.4	144.9	146.0	146.8	147.5	148.1	149.0	149.6	150.6		151.1
110	142.9	143.5	144.0	144.5	145.0	146.1	147.6	148.7	149.6	150.3	150.8	151.7	152.4	153.4	154.0	154.0
112	145.5	146.1	146.7	147.2	147.6	148.8	150.3	151.4	152.3	153.0	153.6	154.5	155.2	156.2	156.8	156.9
114	148.2	148.8	149.3	149.8	150.3	151.5	153.0	154.1	155.0	155.7	156.3	157.3	158.0	159.0	159.6	159.7
116	150.8	151.4	151.9	152.5	152.9	154.1	155.7	156.8	157.7	158.5	159.1	160.0	160.7	161.7	162.4	162.6
118	153.4	154.0	154.6	155.1	155.6	156.8	158.4	159.5	160.5	161.2	161.8	162.8	163.5	164.5	165.2	165.4
120	156.0	156.6	157.2	157.7	158.2	159.5	161.1	162.3	163.2	164.0	164.6	165.6	166.3	167.3	168.0	168.3
122	158.6	159.3	159.9	160.4	160.9	162.1	163.8	165.0	165.9	166.7	167.3	168.3	169.1	170.1	170.8	171.1
124	161.3	161.9	162.5	163.0	163.5	164.8	166.5	167.7	168.6	169.4	170.1	171.1	171.8	172.9	173.6	174.0
126	163.9	164.5	165.1	165.7	166.2	167.5	169.1	170.4	171.4	172.2	172.8	173.9	174.6	175.7	176.4	176.8
128	166.5	167.2	167.8	168.3	168.8	170.2	171.8	173.1	174.1	174.9	175.6	176.6	177.4	178.5	179.2	179.7
130	169.1	169.8	170.4	171.0	171.5	172.8	174.5	175.8	176.8	177.7	178.3	179.4	180.2	181.3	182.0	182.5
132	171.7	172.4	173.0	173.6	174.1	175.5	177.2	178.5	179.6	180.4	181.1	182.1	182.9	184.1	184.8	185.4
134	174.3	175.0	175.7	176.3	176.8	178.2	179.9	181.3	182.3	183.1	183.8	184.9	185.7	186.9	187.6	188.3
136	177.0	177.7	178.3	178.9	179.5	180.9	182.6	184.0	185.0	185.9	186.6	187.7	188.5	189.7	190.4	191.1
138	179.6	180.3	181.0	181.6	182.1	183.5	185.3	186.7	187.8	188.6	189.3	190.4	191.3	192.4	193.2	194.0
140	182.2	182.9	183.6	184.2	184.8	186.2	188.0	189.4	190.5	191.4	192.1	193.2	194.1	195.2	196.0	196.8
142	184.8	185.6	186.2	186.8	187.4	188.9	190.7	192.1	193.2	194.1	194.8	196.0	196.8	198.0	198.8	199.7
144	187.4	188.2	188.9	189.5	190.1	191.5	193.4	194.8	195.9	196.8	197.6	198.7	199.6	200.8	201.6	202.5
146	190.1	190.8	191.5	192.1	192.7	194.2	196.1	197.6	198.7	199.6	200.3	201.5	202.4	203.6	204.4	205.4
148	192.7	193.4	194.1	194.8	195.4	196.9	198.8	200.3	201.4	202.3	203.1	204.3	205.2	206.4	207.2	208.2
150	195.3	196.1	196.8	197.4	198.0	199.6	201.5	203.0	204.1	205.1	205.8	207.0	207.9	209.2	210.0	211.1
152	197.9	198.7	199.4	200.1	200.7	202.2	204.2	205.7	206.9	207.8	208.6	209.8	210.7	212.0	212.8	214.0
154	200.5	201.3	202.1	202.7	203.3	204.9	206.9	208.4	209.6	210.6	211.3	212.6	213.5	214.8	215.6	216.8
156	203.2	204.0	204.7	205.4	206.0	207.6	209.6	211.1	212.3	213.3	214.1	215.3	216.3	217.6	218.4	219.7
158	205.8	206.6	207.3	208.0	208.7	210.3	212.3	213.9	215.1	216.0	216.8	218.1	219.0	220.4	221.2	222.5
160	208.4	209.2	210.0	210.7	211.3	212.9	215.0	216.6	217.8	218.8	219.6	220.9	221.8	223.2	224.0	225.4
162	211.0	211.9	212.6	213.3	214.0	215.6	217.7	219.3	220.5	221.5	222.3	223.6	224.6	225.9	226.9	228.2
164	213.6	214.5	215.3	216.0	216.6	218.3	220.4	222.0	223.3	224.3	225.1	226.4	227.4	228.7	229.7	231.1
166	216.3	217.1	217.9	218.6	219.3	221.0	223.1	224.7	226.0	227.0	227.8	229.2	230.1	231.5	232.5	233.9
168	218.9	219.7	220.5	221.3	221.9	223.7	225.8	227.5	228.7	229.7	230.6	231.9	232.9	234.3	235.3	236.8
170	221.5	222.4	223.2	223.9	224.6	226.3	228.5	230.2	231.5	232.5	233.4	234.7	235.7	237.1	238.1	239.7
172	224.1	225.0	225.8	226.6	227.3	229.0	231.2	232.9	234.2	235.2	236.1	237.5	238.5	239.9	240.9	242.5
174	226.7	227.6	228.5	229.2	229.9	231.7	233.9	235.6	236.9	238.0	238.9	240.2	241.3	242.7	243.7	245.4
176	229.4	230.3	231.1	231.9	232.6	234.4	236.6	238.3	239.7	240.7	241.6	243.0	244.0	245.5	246.5	248.2
178	232.0	232.9	233.7	234.5	235.2	237.0	239.3	241.0	242.4	243.5	244.4	245.8	246.8	248.3	249.3	251.1
180	234.6	235.5	236.4	237.2	237.9	239.7	242.0	243.8	245.1	246.2	247.1	248.5	249.6	251.1	252.1	253.9
182	237.2	238.2	239.0	239.8	240.5	242.4	244.7	246.5	247.9	249.0	249.9	251.3	252.4	253.9	254.9	256.8
184	239.8	240.8	241.7	242.5	243.2	245.1	247.4	249.2	250.6	251.7	252.6	254.1	255.1	256.7	257.7	259.6
186	242.4	243.4	244.3	245.1	245.8	247.7	250.1	251.9	253.3	254.4	255.4	256.8	257.9	259.5	260.5	262.5
188	245.0	246.1	246.9	247.8	248.5	250.4	252.8	254.6	256.1	257.2	258.1	259.6	260.7	262.2	263.3	265.4
190	247.6	248.7	249.6	250.4	251.2	253.1	255.5	257.4	258.8	259.9	260.9	262.4	263.5	265.0	266.1	268.2
192	250.2	251.3	252.2	253.1	253.8	255.8	258.2	260.1	261.5	262.7	263.6	265.1	266.2	267.8	268.9	271.1
194	252.8	253.9	254.9	255.7	256.5	258.5	260.9	262.8	264.3	265.4	266.4	267.9	269.0	270.6	271.7	273.9
196	255.4	256.5	257.5	258.4	259.1	261.1	263.6	265.5	267.0	268.2	269.1	270.7	271.8	273.4	274.5	276.8
198	258.1	259.2	260.2	261.0	261.8	263.8	266.3	268.2	269.7	270.9	271.9	273.4	274.6	276.2	277.3	279.6
200	260.7	261.8	262.8	263.7	264.5	266.5	269.1	271.0	272.5	273.7	274.6	276.2	277.4	279.0	280.1	282.5
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	147.0	179.8	200.0	213.7	223.5	230.9	236.6	241.3	245.0	248.1	250.6	252.9	254.8	256.5	258.1	259.4
202	148.4	181.6	202.0	215.8	225.7	233.2	239.0	243.7	247.5	250.5	253.1	255.4	257.4	259.1	260.6	262.0
204	149.9	183.4	204.0	218.0	228.0	235.5	241.4	246.1	249.9	253.0	255.7	257.9	259.9	261.7	263.2	264.6
206	151.4	185.2	206.0	220.1	230.2	237.8	243.7	248.5	252.4	255.5	258.2	260.5	262.5	264.2	265.8	267.2
208	152.9	187.0	208.0	222.2	232.4	240.1	246.1	250.9	254.8	258.0	260.7	263.0	265.0	266.8	268.4	269.8
210	154.3	188.8	210.0	224.4	234.7	242.4	248.5	253.3	257.3	260.5	263.2	265.5	267.6	269.4	271.0	272.4
212	155.8	190.6	212.0	226.5	236.9	244.7	250.8	255.7	259.7	262.9	265.7	268.0	270.1	271.9	273.5	275.0
214	157.3	192.4	214.0	228.6	239.1	247.0	253.2	258.1	262.2	265.4	268.2	270.6	272.7	274.5	276.1	277.6
216	158.7	194.2	216.0	230.8	241.4	249.3	255.6	260.6	264.7	267.9	270.7	273.1	275.2	277.1	278.7	280.2
218	160.2	196.0	218.0	232.9	243.6	251.7	257.9	263.0	267.1	270.4	273.2	275.6	277.8	279.6	281.3	282.8
220	161.7	197.8	220.0	235.1	245.8	254.0	260.3	265.4	269.6	272.9	275.7	278.2	280.3	282.2	283.9	285.4
222	163.1	199.6	222.0	237.2	248.1	256.3	262.7	267.8	272.0	275.4	278.2	280.7	282.8	284.8	286.4	288.0
224	164.6	201.4	224.1	239.3	250.3	258.6	265.0	270.2	274.5	277.8	280.7	283.2	285.4	287.3	289.0	290.6
226	166.1	203.2	226.1	241.5	252.5	260.9	267.4	272.6	276.9	280.3	283.2	285.7	287.9	289.9	291.6	293.2
228	167.6	205.0	228.1	243.6	254.8	263.2	269.8	275.0	279.4	282.8	285.7	288.3	290.5	292.5	294.2	295.7
230	169.0	206.8	230.1	245.7	257.0	265.5	272.1	277.4	281.8	285.3	288.2	290.8	293.0	295.0	296.8	298.3
232	170.5	208.6	232.1	247.9	259.2	267.8	274.5	279.9	284.3	287.8	290.7	293.3	295.6	297.6	299.4	300.9
234	172.0	210.4	234.1	250.0	261.5	270.1	276.9	282.3	286.7	290.2	293.3	295.9	298.1	300.1	301.9	303.5
236	173.4	212.2	236.1	252.1	263.7	272.4	279.2	284.7	289.2	292.7	295.8	298.4	300.7	302.7	304.5	306.1
238	174.9	214.0	238.1	254.3	266.0	274.7	281.6	287.1	291.6	295.2	298.3	300.9	303.2	305.3	307.1	308.7
240	176.4	215.8	240.1	256.4	268.2	277.0	284.0	289.5	294.1	297.7	300.8	303.4	305.8	307.8	309.7	311.3
242	177.8	217.6	242.1	258.6	270.4	279.4	286.3	291.9	296.5	300.2	303.3	306.0	308.3	310.4	312.3	313.9
244	179.3	219.4	244.1	260.7	272.7	281.7	288.7	294.3	299.0	302.6	305.8	308.5	310.9	313.0	314.8	316.5
246	180.8	221.2	246.1	262.8	274.9	284.0	291.1	296.7	301.4	305.1	308.3	311.0	313.4	315.5	317.4	319.1
248	182.3	223.0	248.1	265.0	277.1	286.3	293.4	299.2	303.9	307.6	310.8	313.6	316.0	318.1	320.0	321.7
250	183.7	224.8	250.1	267.1	279.4	288.6	295.8	301.6	306.3	310.1	313.3	316.1	318.5	320.7	322.6	324.3
	.736	*.898*	*1.000*	*1.068*	*1.116*	*1.154*	*1.184*	*1.206*	*1.226*	*1.240*	*1.254*	*1.264*	*1.274*	*1.282*	*1.290*	*1.296*
300	220.5	269.7	300.1	320.5	335.2	346.3	355.0	361.9	367.6	372.1	376.0	379.3	382.2	384.8	387.1	389.1
	.734	*.900*	*1.000*	*1.068*	*1.118*	*1.154*	*1.182*	*1.206*	*1.224*	*1.240*	*1.252*	*1.264*	*1.274*	*1.282*	*1.290*	*1.298*
350	257.2	314.7	350.1	373.9	391.1	404.0	414.1	422.2	428.8	434.1	438.6	442.5	445.9	448.9	451.6	454.0
	.736	*.898*	*1.000*	*1.070*	*1.118*	*1.154*	*1.184*	*1.206*	*1.226*	*1.240*	*1.254*	*1.264*	*1.274*	*1.284*	*1.290*	*1.298*
400	294.0	359.6	400.1	427.4	447.0	461.7	473.3	482.5	490.1	496.1	501.3	505.7	509.6	513.1	516.1	518.9
	.734	*.900*	*1.000*	*1.068*	*1.118*	*1.156*	*1.182*	*1.206*	*1.226*	*1.240*	*1.252*	*1.266*	*1.274*	*1.282*	*1.290*	*1.296*
450	330.7	404.6	450.1	480.8	502.9	519.5	532.4	542.8	551.4	558.1	563.9	569.0	573.3	577.2	580.6	583.7
	.734	*.900*	*1.000*	*1.068*	*1.116*	*1.154*	*1.184*	*1.206*	*1.224*	*1.242*	*1.254*	*1.264*	*1.274*	*1.282*	*1.292*	*1.298*
500	367.4	449.6	500.1	534.2	558.7	577.2	591.6	603.1	612.6	620.2	626.6	632.2	637.0	641.3	645.2	648.6
	.735	*.899*	*1.000*	*1.069*	*1.118*	*1.154*	*1.183*	*1.207*	*1.225*	*1.240*	*1.253*	*1.264*	*1.275*	*1.283*	*1.290*	*1.297*
600	440.9	539.5	600.1	641.1	670.5	692.6	709.9	723.8	735.1	744.2	751.9	758.6	764.5	769.6	774.2	778.3
	.735	*.899*	*1.001*	*1.068*	*1.117*	*1.155*	*1.183*	*1.206*	*1.226*	*1.240*	*1.253*	*1.264*	*1.274*	*1.283*	*1.290*	*1.297*
700	514.4	629.4	700.2	747.9	782.2	808.1	828.2	844.4	857.7	868.2	877.2	885.0	891.9	897.9	903.2	908.0
	.735	*.899*	*1.000*	*1.068*	*1.118*	*1.154*	*1.183*	*1.206*	*1.225*	*1.241*	*1.258*	*1.260*	*1.271*	*1.281*	*1.288*	*1.300*
800	587.9	719.3	800.2	854.7	894.0	923.5	946.5	965.0	980.2	992.3	1003.	1011.	1019.	1026.	1032.	1038.
	.735	*.899*	*1.000*	*1.069*	*1.120*	*1.155*	*1.185*	*1.210*	*1.228*	*1.237*	*1.25*	*1.27*	*1.28*	*1.28*	*1.29*	*1.29*
900	661.4	809.2	900.2	961.6	1006.	1039.	1065.	1086.	1103.	1116.	1128.	1138.	1147.	1154.	1161.	1167.
	.735	*.899*	*.998*	*1.064*	*1.11*	*1.15*	*1.18*	*1.20*	*1.22*	*1.24*	*1.25*	*1.26*	*1.27*	*1.29*	*1.29*	*1.30*
1000	734.9	899.1	1000.	1068.	1117.	1154.	1183.	1206.	1225.	1240.	1253.	1264.	1274.	1283.	1290.	1297.
	.735	*.899*	*1.00*	*1.07*	*1.12*	*1.16*	*1.18*	*1.21*	*1.23*	*1.24*	*1.26*	*1.27*	*1.28*	*1.28*	*1.29*	*1.30*
1100	808.4	989.0	1100.	1175.	1229.	1270.	1301.	1327.	1348.	1364.	1379.	1391.	1402.	1411.	1419.	1427.
	.7349	*.8991*	*1.000*	*1.068*	*1.117*	*1.154*	*1.183*	*1.206*	*1.225*	*1.240*	*1.253*	*1.264*	*1.274*	*1.283*	*1.290*	*1.297*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																								k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110											
200	260.7	261.8	262.8	263.7	264.5	266.5	269.1	271.0	272.5	273.7	274.6	276.2	277.4	279.0	280.1	282.5	200									
202	263.3	264.4	265.4	266.3	267.1	269.2	271.8	273.7	275.2	276.4	277.4	279.0	280.1	281.8	282.9	285.4	202									
204	265.9	267.0	268.0	269.0	269.8	271.8	274.5	276.4	277.9	279.1	280.2	281.7	282.9	284.6	285.7	288.2	204									
206	268.5	269.6	270.7	271.6	272.4	274.5	277.2	279.1	280.7	281.9	282.9	284.5	285.7	287.4	288.5	291.1	206									
208	271.1	272.2	273.3	274.3	275.1	277.2	279.9	281.8	283.4	284.6	285.7	287.3	288.5	290.2	291.3	293.9	208									
210	273.7	274.9	275.9	276.9	277.7	279.9	282.6	284.6	286.1	287.4	288.4	290.0	291.3	293.0	294.1	296.8	210									
212	276.3	277.5	278.6	279.5	280.4	282.6	285.3	287.3	288.9	290.1	291.2	292.8	294.0	295.8	296.9	299.6	212									
214	278.9	280.1	281.2	282.2	283.1	285.2	288.0	290.0	291.6	292.9	293.9	295.6	296.8	298.6	299.7	302.5	214									
216	281.5	282.7	283.8	284.8	285.7	287.9	290.7	292.7	294.3	295.6	296.7	298.3	299.6	301.3	302.5	305.3	216									
218	284.1	285.3	286.4	287.5	288.4	290.6	293.4	295.4	297.1	298.4	299.4	301.1	302.4	304.1	305.3	308.2	218									
220	286.7	288.0	289.1	290.1	291.0	293.3	296.1	298.2	299.8	301.1	302.2	303.9	305.1	306.9	308.1	311.1	220									
222	289.3	290.6	291.7	292.7	293.7	295.9	298.8	300.9	302.5	303.9	304.9	306.6	307.9	309.7	310.9	313.9	222									
224	291.9	293.2	294.3	295.4	296.3	298.6	301.5	303.6	305.3	306.6	307.7	309.4	310.7	312.5	313.7	316.8	224									
226	294.5	295.8	297.0	298.0	299.0	301.3	304.2	306.3	308.0	309.3	310.5	312.2	313.5	315.3	316.5	319.6	226									
228	297.2	298.4	299.6	300.6	301.6	304.0	306.9	309.1	310.7	312.1	313.2	315.0	316.3	318.1	319.3	322.5	228									
230	299.8	301.0	302.2	303.3	304.3	306.7	309.6	311.8	313.5	314.8	316.0	317.7	319.0	320.9	322.1	325.3	230									
232	302.4	303.7	304.8	305.9	306.9	309.3	312.3	314.5	316.2	317.6	318.7	320.5	321.8	323.7	325.0	328.2	232									
234	305.0	306.3	307.5	308.6	309.5	312.0	315.0	317.2	318.9	320.3	321.5	323.3	324.6	326.5	327.8	331.1	234									
236	307.6	308.9	310.1	311.2	312.2	314.7	317.7	319.9	321.7	323.1	324.2	326.0	327.4	329.3	330.6	333.9	236									
238	310.2	311.5	312.7	313.8	314.8	317.4	320.4	322.7	324.4	325.8	327.0	328.8	330.2	332.1	333.4	336.8	238									
240	312.8	314.1	315.3	316.5	317.5	320.1	323.1	325.4	327.2	328.6	329.7	331.6	332.9	334.9	336.2	339.6	240									
242	315.4	316.7	318.0	319.1	320.1	322.7	325.8	328.1	329.9	331.3	332.5	334.3	335.7	337.7	339.0	342.5	242									
244	318.0	319.4	320.6	321.7	322.8	325.4	328.5	330.8	332.6	334.1	335.2	337.1	338.5	340.5	341.8	345.3	244									
246	320.6	322.0	323.2	324.4	325.4	328.1	331.2	333.6	335.4	336.8	338.0	339.9	341.3	343.2	344.6	348.2	246									
248	323.2	324.6	325.9	327.0	328.1	330.8	333.9	336.3	338.1	339.6	340.8	342.6	344.1	346.0	347.4	351.0	248									
250	325.8	327.2	328.5	329.6	330.7	333.4	336.6	339.0	340.8	342.3	343.5	345.4	346.8	348.8	350.2	353.9	250									
	1.304	*1.310*	*1.314*	*1.320*	*1.324*	*1.334*	*1.354*	*1.362*	*1.370*	*1.374*	*1.378*	*1.386*	*1.390*	*1.398*	*1.402*	*1.428*										
300	391.0	392.7	394.2	395.6	396.9	400.1	404.3	407.1	409.3	411.0	412.4	414.7	416.3	418.7	420.3	425.3	300									
	1.304	*1.308*	*1.314*	*1.318*	*1.322*	*1.334*	*1.346*	*1.362*	*1.368*	*1.374*	*1.380*	*1.384*	*1.392*	*1.398*	*1.402*	*1.428*										
350	456.2	458.1	459.9	461.5	463.0	466.8	471.6	475.2	477.7	479.7	481.4	483.9	485.9	488.6	490.4	496.7	350									
	1.302	*1.310*	*1.314*	*1.318*	*1.322*	*1.334*	*1.348*	*1.358*	*1.370*	*1.376*	*1.378*	*1.386*	*1.390*	*1.398*	*1.402*	*1.430*										
400	521.3	523.6	525.6	527.4	529.1	533.5	539.0	543.1	546.2	548.5	550.3	553.2	555.4	558.5	560.5	568.2	400									
	1.304	*1.308*	*1.314*	*1.320*	*1.324*	*1.334*	*1.348*	*1.358*	*1.366*	*1.374*	*1.380*	*1.388*	*1.392*	*1.398*	*1.404*	*1.428*										
450	586.5	589.0	591.3	593.4	595.3	600.2	606.4	611.0	614.5	617.2	619.3	622.6	625.0	628.4	630.7	639.6	450									
	1.304	*1.308*	*1.314*	*1.318*	*1.322*	*1.334*	*1.348*	*1.356*	*1.364*	*1.372*	*1.382*	*1.386*	*1.392*	*1.398*	*1.402*	*1.428*										
500	651.7	654.4	657.0	659.3	661.4	666.9	673.8	678.8	682.7	685.8	688.4	691.9	694.6	698.3	700.8	711.0	500									
	1.303	*1.309*	*1.314*	*1.319*	*1.323*	*1.334*	*1.347*	*1.358*	*1.366*	*1.372*	*1.376*	*1.388*	*1.392*	*1.399*	*1.403*	*1.429*										
600	782.0	785.3	788.4	791.2	793.7	800.3	808.5	814.6	819.3	823.0	826.0	830.7	833.8	838.2	841.1	853.9	600									
	1.303	*1.309*	*1.314*	*1.318*	*1.323*	*1.334*	*1.348*	*1.358*	*1.365*	*1.372*	*1.377*	*1.384*	*1.393*	*1.399*	*1.404*	*1.428*										
700	912.3	916.2	919.8	923.0	926.0	933.7	943.3	950.4	955.8	960.2	963.7	969.1	973.1	978.1	981.5	996.7	700									
	1.307	*1.308*	*1.312*	*1.320*	*1.320*	*1.333*	*1.347*	*1.356*	*1.362*	*1.368*	*1.373*	*1.389*	*1.389*	*1.399*	*1.405*	*1.433*										
800	1043.	1047.	1051.	1055.	1058.	1067.	1078.	1086.	1092.	1097.	1101.	1108.	1112.	1118.	1122.	1140.	800									
	1.30	*1.31*	*1.32*	*1.32*	*1.33*	*1.33*	*1.35*	*1.36*	*1.37*	*1.37*	*1.38*	*1.38*	*1.39*	*1.40*	*1.40*	*1.42*										
900	1173.	1178.	1183.	1187.	1191.	1200.	1213.	1222.	1229.	1234.	1239.	1246.	1251.	1258.	1262.	1282.	900									
	1.30	*1.31*	*1.31*	*1.32*	*1.32*	*1.34*	*1.35*	*1.36*	*1.36*	*1.38*	*1.38*	*1.38*	*1.39*	*1.40*	*1.41*	*1.43*										
1000	1303.	1309.	1314.	1319.	1323.	1334.	1348.	1358.	1365.	1372.	1377.	1384.	1390.	1398.	1403.	1425.	1000									
	1.31	*1.31*	*1.31*	*1.31*	*1.32*	*1.33*	*1.34*	*1.35*	*1.37*	*1.37*	*1.37*	*1.39*	*1.39*	*1.40*	*1.40*	*1.43*										
1100	1434.	1440.	1445.	1450.	1455.	1467.	1482.	1493.	1502.	1509.	1514.	1523.	1529.	1538.	1543.	1568.	1100									
	1.303	*1.309*	*1.314*	*1.319*	*1.323*	*1.334*	*1.348*	*1.358*	*1.365*	*1.372*	*1.377*	*1.384*	*1.390*	*1.398*	*1.403*											
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N									
	k																									

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	2.00															
3	3.01	3.48														
4	4.03	4.65	5.02													
5	5.04	5.83	6.29	6.60												
6	6.05	7.01	7.56	7.93	8.19											
7	7.05	8.20	8.83	9.26	9.57	9.80										
8	8.06	9.38	10.1	10.6	10.9	11.2	11.4									
9	9.07	10.6	11.4	11.9	12.3	12.6	12.9	13.0								
10	10.1	11.7	12.7	13.3	13.7	14.0	14.3	14.5	14.7							
11	11.1	12.9	13.9	14.6	15.1	15.4	15.7	16.0	16.2	16.3						
12	12.1	14.1	15.2	15.9	16.5	16.9	17.2	17.4	17.6	17.8	18.0					
13	13.1	15.3	16.5	17.3	17.8	18.3	18.6	18.9	19.1	19.3	19.5	19.6				
14	14.1	16.4	17.8	18.6	19.2	19.7	20.0	20.3	20.6	20.8	21.0	21.1	21.2			
15	15.1	17.6	19.1	20.0	20.6	21.1	21.5	21.8	22.1	22.3	22.5	22.6	22.8	22.9		
16	16.1	18.8	20.4	21.3	22.0	22.5	22.9	23.3	23.5	23.8	24.0	24.1	24.3	24.4	24.5	
17	17.1	20.0	21.6	22.7	23.4	23.9	24.4	24.7	25.0	25.3	25.5	25.7	25.8	26.0	26.1	26.2
18	18.1	21.1	22.9	24.0	24.8	25.4	25.8	26.2	26.5	26.7	27.0	27.2	27.3	27.5	27.6	27.7
19	19.1	22.3	24.2	25.4	26.2	26.8	27.3	27.6	28.0	28.2	28.5	28.7	28.9	29.0	29.2	29.3
20	20.2	23.5	25.5	26.7	27.6	28.2	28.7	29.1	29.5	29.7	30.0	30.2	30.4	30.5	30.7	30.8
21	21.2	24.7	26.7	28.1	29.0	29.6	30.1	30.6	30.9	31.2	31.5	31.7	31.9	32.1	32.2	32.4
22	22.2	25.8	28.0	29.4	30.3	31.0	31.6	32.0	32.4	32.7	33.0	33.2	33.4	33.6	33.8	33.9
23	23.2	27.0	29.3	30.8	31.7	32.5	33.0	33.5	33.9	34.2	34.5	34.7	35.0	35.1	35.3	35.5
24	24.2	28.2	30.6	32.1	33.1	33.9	34.5	35.0	35.4	35.7	36.0	36.3	36.5	36.7	36.9	37.0
25	25.2	29.4	31.8	33.5	34.5	35.3	35.9	36.4	36.9	37.2	37.5	37.8	38.0	38.2	38.4	38.6
26	26.2	30.5	33.1	34.8	35.9	36.7	37.4	37.9	38.3	38.7	39.0	39.3	39.5	39.7	39.9	40.1
27	27.2	31.7	34.4	36.1	37.3	38.2	38.8	39.4	39.8	40.2	40.5	40.8	41.1	41.3	41.5	41.6
28	28.2	32.9	35.7	37.5	38.7	39.6	40.3	40.8	41.3	41.7	42.0	42.3	42.6	42.8	43.0	43.2
29	29.2	34.1	36.9	38.8	40.1	41.0	41.7	42.3	42.8	43.2	43.5	43.8	44.1	44.3	44.6	44.7
30	30.2	35.2	38.2	40.2	41.5	42.4	43.2	43.8	44.3	44.7	45.1	45.4	45.6	45.9	46.1	46.3
31	31.2	36.4	39.5	41.5	42.9	43.9	44.6	45.2	45.8	46.2	46.6	46.9	47.2	47.4	47.6	47.8
32	32.2	37.6	40.8	42.8	44.3	45.3	46.1	46.7	47.2	47.7	48.1	48.4	48.7	48.9	49.2	49.4
33	33.3	38.8	42.0	44.2	45.7	46.7	47.5	48.2	48.7	49.2	49.6	49.9	50.2	50.5	50.7	50.9
34	34.3	39.9	43.3	45.5	47.1	48.1	49.0	49.7	50.2	50.7	51.1	51.4	51.7	52.0	52.3	52.5
35	35.3	41.1	44.6	46.9	48.5	49.6	50.4	51.1	51.7	52.2	52.6	53.0	53.3	53.6	53.8	54.0
36	36.3	42.3	45.8	48.2	49.9	51.0	51.9	52.6	53.2	53.7	54.1	54.5	54.8	55.1	55.3	55.6
37	37.3	43.5	47.1	49.5	51.3	52.4	53.3	54.1	54.7	55.2	55.6	56.0	56.3	56.6	56.9	57.1
38	38.3	44.6	48.4	50.9	52.6	53.9	54.8	55.5	56.2	56.7	57.1	57.5	57.9	58.2	58.4	58.7
39	39.3	45.8	49.7	52.2	54.0	55.3	56.2	57.0	57.6	58.2	58.6	59.0	59.4	59.7	60.0	60.2
40	40.3	47.0	50.9	53.6	55.4	56.7	57.7	58.5	59.1	59.7	60.2	60.6	60.9	61.2	61.5	61.8
41	41.3	48.2	52.2	54.9	56.8	58.1	59.1	60.0	60.6	61.2	61.7	62.1	62.4	62.8	63.1	63.3
42	42.3	49.3	53.5	56.2	58.2	59.6	60.6	61.4	62.1	62.7	63.2	63.6	64.0	64.3	64.6	64.9
43	43.3	50.5	54.8	57.6	59.6	61.0	62.0	62.9	63.6	64.2	64.7	65.1	65.5	65.8	66.1	66.4
44	44.3	51.7	56.0	58.9	61.0	62.4	63.5	64.4	65.1	65.7	66.2	66.6	67.0	67.4	67.7	68.0
45	45.3	52.9	57.3	60.2	62.3	63.9	65.0	65.8	66.6	67.2	67.7	68.2	68.6	68.9	69.2	69.5
46	46.4	54.0	58.6	61.6	63.7	65.3	66.4	67.3	68.1	68.7	69.2	69.7	70.1	70.5	70.8	71.1
47	47.4	55.2	59.9	62.9	65.1	66.7	67.9	68.8	69.5	70.2	70.7	71.2	71.6	72.0	72.3	72.6
48	48.4	56.4	61.1	64.3	66.5	68.1	69.3	70.3	71.0	71.7	72.3	72.7	73.2	73.5	73.9	74.2
49	49.4	57.6	62.4	65.6	67.9	69.6	70.8	71.7	72.5	73.2	73.8	74.3	74.7	75.1	75.4	75.7
50	50.4	58.7	63.7	66.9	69.3	71.0	72.2	73.2	74.0	74.7	75.3	75.8	76.2	76.6	77.0	77.3
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

k \ N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
1																.667
2																2.00
3																3.48
4																5.02
5																6.60
6																8.19
7																9.80
8																11.4
9																13.0
10																14.7
11																16.3
12																18.0
13																19.6
14																21.2
15																22.9
16																24.5
17																26.2
18																27.8
19																29.5
20																31.2
21	32.5	32.6	32.7	32.8												32.8
22	34.0	34.2	34.3	34.4	34.5											34.5
23	35.6	35.7	35.8	35.9	36.0											36.1
24	37.1	37.3	37.4	37.5	37.6											37.8
25	38.7	38.8	39.0	39.1	39.2	39.4										39.4
26	40.3	40.4	40.5	40.6	40.7	41.0										41.1
27	41.8	41.9	42.1	42.2	42.3	42.6										42.8
28	43.4	43.5	43.6	43.8	43.9	44.2										44.4
29	44.9	45.1	45.2	45.3	45.5	45.8										46.1
30	46.5	46.6	46.8	46.9	47.0	47.3	47.7									47.7
31	48.0	48.2	48.3	48.5	48.6	48.9	49.3									49.4
32	49.6	49.7	49.9	50.0	50.2	50.5	50.9									51.1
33	51.1	51.3	51.5	51.6	51.7	52.1	52.5									52.7
34	52.7	52.9	53.0	53.2	53.3	53.7	54.1									54.4
35	54.2	54.4	54.6	54.7	54.9	55.2	55.7	56.0								56.0
36	55.8	56.0	56.1	56.3	56.4	56.8	57.3	57.6								57.7
37	57.3	57.5	57.7	57.9	58.0	58.4	58.9	59.2								59.4
38	58.9	59.1	59.3	59.4	59.6	60.0	60.5	60.8								61.0
39	60.4	60.6	60.8	61.0	61.2	61.6	62.1	62.5								62.7
40	62.0	62.2	62.4	62.6	62.7	63.1	63.7	64.1	64.4							64.4
41	63.6	63.8	64.0	64.1	64.3	64.7	65.3	65.7	66.0							66.0
42	65.1	65.3	65.5	65.7	65.9	66.3	66.9	67.3	67.6							67.7
43	66.7	66.9	67.1	67.3	67.4	67.9	68.4	68.9	69.2							69.3
44	68.2	68.4	68.7	68.8	69.0	69.5	70.0	70.5	70.8							71.0
45	69.8	70.0	70.2	70.4	70.6	71.1	71.6	72.1	72.4	72.7						72.7
46	71.3	71.6	71.8	72.0	72.2	72.6	73.2	73.7	74.0	74.3						74.3
47	72.9	73.1	73.3	73.6	73.7	74.2	74.8	75.3	75.6	75.9						76.0
48	74.4	74.7	74.9	75.1	75.3	75.8	76.4	76.9	77.2	77.5						77.7
49	76.0	76.2	76.5	76.7	76.9	77.4	78.0	78.5	78.8	79.1						79.3
50	77.6	77.8	78.0	78.3	78.5	79.0	79.6	80.1	80.5	80.7	81.0					81.0
k \ N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	50.4	58.7	63.7	66.9	69.3	71.0	72.2	73.2	74.0	74.7	75.3	75.8	76.2	76.6	77.0	77.3
51	51.4	59.9	64.9	68.3	70.6	72.4	73.7	74.7	75.5	76.2	76.8	77.3	77.8	78.1	78.5	78.8
52	52.4	61.1	66.2	69.6	72.0	73.8	75.1	76.2	77.0	77.7	78.3	78.8	79.3	79.7	80.0	80.4
53	53.4	62.3	67.5	71.0	73.4	75.3	76.6	77.6	78.5	79.2	79.8	80.3	80.8	81.2	81.6	81.9
54	54.4	63.4	68.8	72.3	74.8	76.7	78.0	79.1	80.0	80.7	81.3	81.9	82.3	82.8	83.1	83.5
55	55.4	64.6	70.0	73.6	76.2	78.1	79.5	80.6	81.5	82.2	82.8	83.4	83.9	84.3	84.7	85.0
56	56.4	65.8	71.3	75.0	77.6	79.5	81.0	82.0	83.0	83.7	84.4	84.9	85.4	85.8	86.2	86.6
57	57.4	67.0	72.6	76.3	79.0	80.9	82.4	83.5	84.4	85.2	85.9	86.4	86.9	87.4	87.8	88.1
58	58.4	68.1	73.9	77.7	80.3	82.4	83.9	85.0	85.9	86.7	87.4	88.0	88.5	88.9	89.3	89.7
59	59.4	69.3	75.1	79.0	81.7	83.8	85.3	86.5	87.4	88.2	88.9	89.5	90.0	90.5	90.9	91.2
60	60.5	70.5	76.4	80.3	83.1	85.2	86.8	87.9	88.9	89.7	90.4	91.0	91.5	92.0	92.4	92.8
61	61.5	71.6	77.7	81.7	84.5	86.6	88.2	89.4	90.4	91.2	91.9	92.5	93.1	93.5	94.0	94.3
62	62.5	72.8	79.0	83.0	85.9	88.0	89.7	90.9	91.9	92.7	93.4	94.1	94.6	95.1	95.5	95.9
63	63.5	74.0	80.2	84.3	87.3	89.5	91.1	92.4	93.4	94.2	95.0	95.6	96.1	96.6	97.1	97.4
64	64.5	75.2	81.5	85.7	88.7	90.9	92.6	93.8	94.9	95.7	96.5	97.1	97.7	98.2	98.6	99.0
65	65.5	76.3	82.8	87.0	90.0	92.3	94.0	95.3	96.4	97.2	98.0	98.6	99.2	99.7	100.1	100.5
66	66.5	77.5	84.0	88.4	91.4	93.7	95.5	96.8	97.9	98.7	99.5	100.2	100.7	101.2	101.7	102.1
67	67.5	78.7	85.3	89.7	92.8	95.1	96.9	98.3	99.3	100.3	101.0	101.7	102.3	102.8	103.2	103.6
68	68.5	79.9	86.6	91.0	94.2	96.6	98.4	99.7	100.8	101.8	102.5	103.2	103.8	104.3	104.8	105.2
69	69.5	81.0	87.9	92.4	95.6	98.0	99.8	101.2	102.3	103.3	104.1	104.7	105.3	105.9	106.3	106.8
70	70.5	82.2	89.1	93.7	97.0	99.4	101.3	102.7	103.8	104.8	105.6	106.3	106.9	107.4	107.9	108.3
71	71.5	83.4	90.4	95.1	98.4	100.8	102.7	104.2	105.3	106.3	107.1	107.8	108.4	108.9	109.4	109.9
72	72.5	84.6	91.7	96.4	99.7	102.2	104.2	105.7	106.8	107.8	108.6	109.3	109.9	110.5	111.0	111.4
73	73.6	85.7	93.0	97.7	101.1	103.7	105.6	107.1	108.3	109.3	110.1	110.8	111.5	112.0	112.5	113.0
74	74.6	86.9	94.2	99.1	102.5	105.1	107.1	108.6	109.8	110.8	111.6	112.4	113.0	113.6	114.1	114.5
75	75.6	88.1	95.5	100.4	103.9	106.5	108.5	110.1	111.3	112.3	113.1	113.9	114.5	115.1	115.6	116.1
76	76.6	89.3	96.8	101.8	105.3	107.9	110.0	111.6	112.8	113.8	114.7	115.4	116.1	116.6	117.2	117.6
77	77.6	90.4	98.1	103.1	106.7	109.3	111.4	113.0	114.3	115.3	116.2	116.9	117.6	118.2	118.7	119.2
78	78.6	91.6	99.3	104.4	108.1	110.8	112.9	114.5	115.8	116.8	117.7	118.5	119.1	119.7	120.3	120.7
79	79.6	92.8	100.6	105.8	109.4	112.2	114.3	116.0	117.2	118.3	119.2	120.0	120.7	121.3	121.8	122.3
80	80.6	94.0	101.9	107.1	110.8	113.6	115.7	117.5	118.7	119.8	120.7	121.5	122.2	122.8	123.4	123.8
81	81.6	95.1	103.2	108.4	112.2	115.0	117.2	118.9	120.2	121.3	122.2	123.0	123.7	124.4	124.9	125.4
82	82.6	96.3	104.4	109.8	113.6	116.4	118.6	120.4	121.7	122.8	123.8	124.6	125.3	125.9	126.5	126.9
83	83.6	97.5	105.7	111.1	115.0	117.9	120.1	121.9	123.2	124.3	125.3	126.1	126.8	127.4	128.0	128.5
84	84.6	98.7	107.0	112.5	116.4	119.3	121.5	123.3	124.7	125.8	126.8	127.6	128.3	129.0	129.5	130.1
85	85.6	99.8	108.2	113.8	117.7	120.7	123.0	124.8	126.2	127.3	128.3	129.1	129.9	130.5	131.1	131.6
86	86.7	101.0	109.5	115.1	119.1	122.1	124.4	126.3	127.7	128.8	129.8	130.7	131.4	132.1	132.6	133.2
87	87.7	102.2	110.8	116.5	120.5	123.5	125.9	127.7	129.2	130.4	131.3	132.2	132.9	133.6	134.2	134.7
88	88.7	103.4	112.1	117.8	121.9	125.0	127.3	129.2	130.7	131.9	132.9	133.7	134.5	135.1	135.7	136.3
89	89.7	104.5	113.3	119.2	123.3	126.4	128.8	130.7	132.2	133.4	134.4	135.3	136.0	136.7	137.3	137.8
90	90.7	105.7	114.6	120.5	124.7	127.8	130.2	132.1	133.7	134.9	135.9	136.8	137.6	138.2	138.8	139.4
91	91.7	106.9	115.9	121.8	126.1	129.2	131.7	133.6	135.2	136.4	137.4	138.3	139.1	139.8	140.4	140.9
92	92.7	108.1	117.2	123.2	127.4	130.6	133.1	135.1	136.6	137.9	138.9	139.8	140.6	141.3	141.9	142.5
93	93.7	109.2	118.4	124.5	128.8	132.1	134.6	136.6	138.1	139.4	140.4	141.4	142.2	142.9	143.5	144.0
94	94.7	110.4	119.7	125.9	130.2	133.5	136.0	138.0	139.6	140.9	142.0	142.9	143.7	144.4	145.0	145.6
95	95.7	111.6	121.0	127.2	131.6	134.9	137.4	139.5	141.1	142.4	143.5	144.4	145.2	145.9	146.6	147.2
96	96.7	112.8	122.3	128.5	133.0	136.3	138.9	141.0	142.6	143.9	145.0	145.9	146.8	147.5	148.1	148.7
97	97.7	113.9	123.5	129.9	134.4	137.7	140.3	142.4	144.1	145.4	146.5	147.5	148.3	149.0	149.7	150.3
98	98.7	115.1	124.8	131.2	135.8	139.2	141.8	143.9	145.6	146.9	148.0	149.0	149.8	150.6	151.2	151.8
99	99.8	116.3	126.1	132.5	137.1	140.6	143.2	145.4	147.1	148.4	149.5	150.5	151.4	152.1	152.8	153.4
100	100.8	117.5	127.3	133.9	138.5	142.0	144.7	146.8	148.6	149.9	151.1	152.0	152.9	153.7	154.3	154.9
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		
50	77.6	77.8	78.0	78.3	78.5	79.0	79.6	80.1	80.5	80.7	81.0					81.0	50
51	79.1	79.4	79.6	79.8	80.0	80.5	81.2	81.7	82.1	82.4	82.6					82.7	51
52	80.7	80.9	81.2	81.4	81.6	82.1	82.8	83.3	83.7	84.0	84.2					84.3	52
53	82.2	82.5	82.7	83.0	83.2	83.7	84.4	84.9	85.3	85.6	85.8					86.0	53
54	83.8	84.1	84.3	84.5	84.7	85.3	86.0	86.5	86.9	87.2	87.5					87.6	54
55	85.3	85.6	85.9	86.1	86.3	86.9	87.6	88.1	88.5	88.8	89.1					89.3	55
56	86.9	87.2	87.4	87.7	87.9	88.5	89.2	89.7	90.1	90.4	90.7					91.0	56
57	88.4	88.7	89.0	89.2	89.5	90.0	90.8	91.3	91.7	92.1	92.3					92.6	57
58	90.0	90.3	90.6	90.8	91.0	91.6	92.4	92.9	93.3	93.7	94.0					94.3	58
59	91.6	91.9	92.1	92.4	92.6	93.2	94.0	94.5	94.9	95.3	95.6					96.0	59
60	93.1	93.4	93.7	94.0	94.2	94.8	95.6	96.1	96.6	96.9	97.2	97.6				97.6	60
61	94.7	95.0	95.3	95.5	95.8	96.4	97.1	97.7	98.2	98.5	98.8	99.3				99.3	61
62	96.2	96.5	96.8	97.1	97.3	98.0	98.7	99.3	99.8	100.1	100.4	100.9				101.0	62
63	97.8	98.1	98.4	98.7	98.9	99.5	100.3	100.9	101.4	101.8	102.1	102.5				102.6	63
64	99.3	99.7	100.0	100.2	100.5	101.1	101.9	102.5	103.0	103.4	103.7	104.1				104.3	64
65	100.9	101.2	101.5	101.8	102.1	102.7	103.5	104.1	104.6	105.0	105.3	105.8				106.0	65
66	102.5	102.8	103.1	103.4	103.6	104.3	105.1	105.7	106.2	106.6	106.9	107.4				107.6	66
67	104.0	104.4	104.7	104.9	105.2	105.9	106.7	107.3	107.8	108.2	108.5	109.0				109.3	67
68	105.6	105.9	106.2	106.5	106.8	107.5	108.3	109.0	109.4	109.8	110.2	110.7				111.0	68
69	107.1	107.5	107.8	108.1	108.4	109.0	109.9	110.6	111.1	111.5	111.8	112.3				112.6	69
70	108.7	109.0	109.4	109.7	109.9	110.6	111.5	112.2	112.7	113.1	113.4	113.9	114.3			114.3	70
71	110.3	110.6	110.9	111.2	111.5	112.2	113.1	113.8	114.3	114.7	115.0	115.5	115.9			115.9	71
72	111.8	112.2	112.5	112.8	113.1	113.8	114.7	115.4	115.9	116.3	116.6	117.2	117.5			117.6	72
73	113.4	113.7	114.1	114.4	114.7	115.4	116.3	117.0	117.5	117.9	118.3	118.8	119.2			119.3	73
74	114.9	115.3	115.6	115.9	116.2	117.0	117.9	118.6	119.1	119.5	119.9	120.4	120.8			120.9	74
75	116.5	116.9	117.2	117.5	117.8	118.5	119.5	120.2	120.7	121.2	121.5	122.1	122.4			122.6	75
76	118.0	118.4	118.8	119.1	119.4	120.1	121.1	121.8	122.3	122.8	123.1	123.7	124.1			124.3	76
77	119.6	120.0	120.3	120.7	121.0	121.7	122.7	123.4	123.9	124.4	124.8	125.3	125.7			125.9	77
78	121.2	121.5	121.9	122.2	122.5	123.3	124.3	125.0	125.6	126.0	126.4	126.9	127.3			127.6	78
79	122.7	123.1	123.5	123.8	124.1	124.9	125.9	126.6	127.2	127.6	128.0	128.6	129.0			129.3	79
80	124.3	124.7	125.0	125.4	125.7	126.5	127.5	128.2	128.8	129.2	129.6	130.2	130.6			130.9	80
81	125.8	126.2	126.6	126.9	127.3	128.0	129.1	129.8	130.4	130.9	131.2	131.8	132.2			132.6	81
82	127.4	127.8	128.2	128.5	128.8	129.6	130.7	131.4	132.0	132.5	132.9	133.4	133.9			134.3	82
83	129.0	129.4	129.7	130.1	130.4	131.2	132.3	133.0	133.6	134.1	134.5	135.1	135.5			135.9	83
84	130.5	130.9	131.3	131.7	132.0	132.8	133.8	134.6	135.2	135.7	136.1	136.7	137.1			137.6	84
85	132.1	132.5	132.9	133.2	133.6	134.4	135.4	136.2	136.8	137.3	137.7	138.3	138.8			139.3	85
86	133.6	134.1	134.4	134.8	135.1	136.0	137.0	137.8	138.5	138.9	139.3	140.0	140.4			140.9	86
87	135.2	135.6	136.0	136.4	136.7	137.6	138.6	139.4	140.1	140.6	141.0	141.6	142.0			142.6	87
88	136.8	137.2	137.6	137.9	138.3	139.1	140.2	141.0	141.7	142.2	142.6	143.2	143.7			144.3	88
89	138.3	138.8	139.2	139.5	139.9	140.7	141.8	142.6	143.3	143.8	144.2	144.8	145.3			145.9	89
90	139.9	140.3	140.7	141.1	141.4	142.3	143.4	144.3	144.9	145.4	145.8	146.5	146.9	147.6		147.6	90
91	141.4	141.9	142.3	142.7	143.0	143.9	145.0	145.9	146.5	147.0	147.5	148.1	148.6	149.2		149.3	91
92	143.0	143.4	143.9	144.2	144.6	145.5	146.6	147.5	148.1	148.6	149.1	149.7	150.2	150.9		150.9	92
93	144.5	145.0	145.4	145.8	146.2	147.1	148.2	149.1	149.7	150.3	150.7	151.4	151.8	152.5		152.6	93
94	146.1	146.6	147.0	147.4	147.7	148.7	149.8	150.7	151.3	151.9	152.3	153.0	153.5	154.2		154.3	94
95	147.7	148.1	148.6	149.0	149.3	150.2	151.4	152.3	153.0	153.5	153.9	154.6	155.1	155.8		155.9	95
96	149.2	149.7	150.1	150.5	150.9	151.8	153.0	153.9	154.6	155.1	155.6	156.2	156.7	157.4		157.6	96
97	150.8	151.3	151.7	152.1	152.5	153.4	154.6	155.5	156.2	156.7	157.2	157.9	158.4	159.1		159.3	97
98	152.3	152.8	153.3	153.7	154.0	155.0	156.2	157.1	157.8	158.3	158.8	159.5	160.0	160.7		160.9	98
99	153.9	154.4	154.8	155.2	155.6	156.6	157.8	158.7	159.4	160.0	160.4	161.1	161.6	162.4		162.6	99
100	155.5	156.0	156.4	156.8	157.2	158.2	159.4	160.3	161.0	161.6	162.0	162.8	163.3	164.0		164.3	100
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	k																

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	100.8	117.5	127.3	133.9	138.5	142.0	144.7	146.8	148.6	149.9	151.1	152.0	152.9	153.7	154.3	154.9
102	102.8	119.8	129.9	136.6	141.3	144.8	147.6	149.8	151.6	152.9	154.1	155.1	156.0	156.7	157.4	158.0
104	104.8	122.2	132.4	139.2	144.1	147.7	150.5	152.7	154.5	156.0	157.1	158.2	159.0	159.8	160.5	161.1
106	106.8	124.5	135.0	141.9	146.8	150.5	153.4	155.6	157.5	159.0	160.2	161.2	162.1	162.9	163.6	164.3
108	108.8	126.9	137.5	144.6	149.6	153.4	156.3	158.6	160.5	162.0	163.2	164.3	165.2	166.0	166.7	167.4
110	110.8	129.2	140.1	147.3	152.4	156.2	159.2	161.5	163.4	165.0	166.2	167.3	168.3	169.1	169.8	170.5
112	112.9	131.6	142.6	150.0	155.1	159.0	162.0	164.5	166.4	168.0	169.3	170.4	171.3	172.2	172.9	173.6
114	114.9	133.9	145.2	152.6	157.9	161.9	164.9	167.4	169.4	171.0	172.3	173.4	174.4	175.3	176.0	176.7
116	116.9	136.2	147.7	155.3	160.7	164.7	167.8	170.3	172.4	174.0	175.4	176.5	177.5	178.3	179.1	179.8
118	118.9	138.6	150.3	158.0	163.5	167.6	170.7	173.3	175.3	177.0	178.4	179.5	180.5	181.4	182.2	182.9
120	120.9	140.9	152.8	160.7	166.2	170.4	173.6	176.2	178.3	180.0	181.4	182.6	183.6	184.5	185.3	186.0
122	122.9	143.3	155.4	163.3	169.0	173.2	176.5	179.1	181.3	183.0	184.4	185.7	186.7	187.6	188.4	189.1
124	124.9	145.6	157.9	166.0	171.8	176.1	179.4	182.1	184.2	186.0	187.5	188.7	189.8	190.7	191.5	192.3
126	127.0	148.0	160.5	168.7	174.5	178.9	182.3	185.0	187.2	189.0	190.5	191.8	192.8	193.8	194.6	195.4
128	129.0	150.3	163.0	171.4	177.3	181.8	185.2	187.9	190.2	192.0	193.5	194.8	195.9	196.9	197.7	198.5
130	131.0	152.7	165.6	174.0	180.1	184.6	188.1	190.9	193.2	195.0	196.5	197.9	199.0	200.0	200.8	201.6
132	133.0	155.0	168.1	176.7	182.9	187.4	191.0	193.8	196.1	198.0	199.6	200.9	202.1	203.0	203.9	204.7
134	135.0	157.4	170.6	179.4	185.6	190.3	193.9	196.8	199.1	201.0	202.6	204.0	205.1	206.1	207.0	207.8
136	137.0	159.7	173.2	182.1	188.4	193.1	196.8	199.7	202.1	204.0	205.6	207.0	208.2	209.2	210.1	210.9
138	139.1	162.1	175.7	184.8	191.2	196.0	199.7	202.6	205.1	207.0	208.6	210.1	211.3	212.3	213.2	214.0
140	141.1	164.4	178.3	187.4	193.9	198.8	202.6	205.6	208.0	210.0	211.7	213.1	214.4	215.4	216.3	217.2
142	143.1	166.8	180.8	190.1	196.7	201.6	205.5	208.5	211.0	213.0	214.7	216.1	217.4	218.5	219.4	220.3
144	145.1	169.1	183.4	192.8	199.5	204.5	208.3	211.4	214.0	216.0	217.7	219.2	220.5	221.6	222.5	223.4
146	147.1	171.5	185.9	195.5	202.2	207.3	211.2	214.4	216.9	219.0	220.7	222.2	223.5	224.7	225.6	226.5
148	149.1	173.8	188.5	198.1	205.0	210.2	214.1	217.3	219.9	222.0	223.8	225.3	226.6	227.8	228.7	229.6
150	151.1	176.2	191.0	200.8	207.8	213.0	217.0	220.2	222.9	225.0	226.8	228.3	229.7	230.8	231.8	232.7
152	153.2	178.5	193.6	203.5	210.6	215.8	219.9	223.2	225.9	228.0	229.8	231.4	232.7	233.9	234.9	235.8
154	155.2	180.9	196.1	206.2	213.3	218.7	222.8	226.1	228.8	231.0	232.8	234.4	235.8	237.0	238.0	239.0
156	157.2	183.2	198.7	208.9	216.1	221.5	225.7	229.1	231.8	234.0	235.8	237.5	238.8	240.1	241.1	242.1
158	159.2	185.6	201.2	211.5	218.9	224.4	228.6	232.0	234.8	237.0	238.9	240.5	241.9	243.2	244.2	245.2
160	161.2	187.9	203.8	214.2	221.6	227.2	231.5	234.9	237.7	240.0	241.9	243.5	245.0	246.2	247.3	248.3
162	163.2	190.3	206.3	216.9	224.4	230.0	234.4	237.9	240.7	243.0	244.9	246.6	248.0	249.3	250.4	251.4
164	165.2	192.6	208.8	219.6	227.2	232.9	237.3	240.8	243.7	246.0	247.9	249.6	251.1	252.4	253.5	254.5
166	167.3	195.0	211.4	222.2	230.0	235.7	240.2	243.7	246.7	249.0	251.0	252.7	254.2	255.5	256.6	257.6
168	169.3	197.3	213.9	224.9	232.7	238.5	243.1	246.7	249.6	252.0	254.0	255.7	257.2	258.5	259.7	260.8
170	171.3	199.7	216.5	227.6	235.5	241.4	246.0	249.6	252.6	255.0	257.0	258.8	260.3	261.6	262.8	263.9
172	173.3	202.0	219.0	230.3	238.3	244.2	248.9	252.6	255.6	258.0	260.0	261.8	263.3	264.7	265.9	267.0
174	175.3	204.4	221.6	233.0	241.0	247.1	251.7	255.5	258.5	261.0	263.1	264.9	266.4	267.8	269.0	270.1
176	177.3	206.7	224.1	235.6	243.8	249.9	254.6	258.4	261.5	264.0	266.1	267.9	269.5	270.9	272.1	273.2
178	179.4	209.1	226.7	238.3	246.6	252.7	257.5	261.4	264.5	267.0	269.1	270.9	272.5	273.9	275.2	276.3
180	181.4	211.4	229.2	241.0	249.3	255.6	260.4	264.3	267.5	270.0	272.1	274.0	275.6	277.0	278.3	279.4
182	183.4	213.8	231.8	243.7	252.1	258.4	263.3	267.2	270.4	273.0	275.2	277.0	278.7	280.1	281.4	282.5
184	185.4	216.1	234.3	246.3	254.9	261.3	266.2	270.2	273.4	276.0	278.2	280.1	281.7	283.2	284.5	285.6
186	187.4	218.5	236.9	249.0	257.7	264.1	269.1	273.1	276.4	279.0	281.2	283.1	284.8	286.2	287.5	288.7
188	189.4	220.8	239.4	251.7	260.4	266.9	272.0	276.0	279.3	282.0	284.2	286.2	287.8	289.3	290.6	291.8
190	191.4	223.2	242.0	254.4	263.2	269.8	274.9	279.0	282.3	285.0	287.3	289.2	290.9	292.4	293.7	294.9
192	193.5	225.5	244.5	257.1	266.0	272.6	277.8	281.9	285.3	288.0	290.3	292.2	294.0	295.5	296.8	298.0
194	195.5	227.9	247.1	259.7	268.7	275.5	280.7	284.9	288.3	291.0	293.3	295.3	297.0	298.6	299.9	301.1
196	197.5	230.2	249.6	262.4	271.5	278.3	283.6	287.8	291.2	294.0	296.3	298.3	300.1	301.6	303.0	304.2
198	199.5	232.6	252.1	265.1	274.3	281.1	286.5	290.7	294.2	297.0	299.3	301.4	303.2	304.7	306.1	307.3
200	201.5	234.9	254.7	267.8	277.1	284.0	289.4	293.7	297.2	300.0	302.4	304.4	306.2	307.8	309.2	310.4
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N	k																k=N	N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110			
100	155.5	156.0	156.4	156.8	157.2	158.2	159.4	160.3	161.0	161.6	162.0	162.8	163.3	164.0			164.3	100
102	158.6	159.1	159.5	160.0	160.3	161.3	162.6	163.5	164.2	164.8	165.3	166.0	166.5	167.3			167.6	102
104	161.7	162.2	162.7	163.1	163.5	164.5	165.8	166.7	167.5	168.1	168.5	169.3	169.8	170.6			170.9	104
106	164.8	165.3	165.8	166.3	166.7	167.7	169.0	169.9	170.7	171.3	171.8	172.5	173.1	173.8			174.2	106
108	168.0	168.5	169.0	169.4	169.8	170.8	172.2	173.2	173.9	174.5	175.0	175.8	176.3	177.1			177.6	108
110	171.1	171.6	172.1	172.5	173.0	174.0	175.4	176.4	177.1	177.8	178.3	179.0	179.6	180.4	180.9		180.9	110
112	174.2	174.7	175.2	175.7	176.1	177.2	178.6	179.6	180.4	181.0	181.5	182.3	182.9	183.7	184.2		184.2	112
114	177.3	177.9	178.4	178.8	179.3	180.4	181.8	182.8	183.6	184.2	184.7	185.6	186.1	187.0	187.5		187.6	114
116	180.4	181.0	181.5	182.0	182.4	183.5	184.9	186.0	186.8	187.5	188.0	188.8	189.4	190.2	190.8		190.9	116
118	183.6	184.1	184.7	185.1	185.6	186.7	188.1	189.2	190.0	190.7	191.2	192.1	192.7	193.5	194.1		194.2	118
120	186.7	187.3	187.8	188.3	188.7	189.9	191.3	192.4	193.3	193.9	194.5	195.3	195.9	196.8	197.4		197.6	120
122	189.8	190.4	190.9	191.4	191.9	193.1	194.5	195.6	196.5	197.2	197.7	198.6	199.2	200.1	200.6		200.9	122
124	192.9	193.5	194.1	194.6	195.0	196.2	197.7	198.8	199.7	200.4	201.0	201.8	202.5	203.4	203.9		204.2	124
126	196.0	196.7	197.2	197.7	198.2	199.4	200.9	202.1	202.9	203.6	204.2	205.1	205.7	206.6	207.2		207.6	126
128	199.2	199.8	200.4	200.9	201.3	202.6	204.1	205.3	206.2	206.9	207.5	208.4	209.0	209.9	210.5		210.9	128
130	202.3	202.9	203.5	204.0	204.5	205.7	207.3	208.5	209.4	210.1	210.7	211.6	212.3	213.2	213.8		214.2	130
132	205.4	206.1	206.6	207.2	207.7	208.9	210.5	211.7	212.6	213.3	213.9	214.9	215.6	216.5	217.1		217.6	132
134	208.5	209.2	209.8	210.3	210.8	212.1	213.7	214.9	215.8	216.6	217.2	218.1	218.8	219.8	220.4		220.9	134
136	211.7	212.3	212.9	213.5	214.0	215.3	216.9	218.1	219.1	219.8	220.4	221.4	222.1	223.0	223.7		224.2	136
138	214.8	215.5	216.1	216.6	217.1	218.4	220.1	221.3	222.3	223.1	223.7	224.6	225.4	226.3	227.0		227.6	138
140	217.9	218.6	219.2	219.8	220.3	221.6	223.3	224.5	225.5	226.3	226.9	227.9	228.6	229.6	230.3		230.9	140
142	221.0	221.7	222.3	222.9	223.4	224.8	226.5	227.8	228.7	229.5	230.2	231.2	231.9	232.9	233.5		234.2	142
144	224.2	224.9	225.5	226.1	226.6	228.0	229.7	231.0	232.0	232.8	233.4	234.4	235.2	236.2	236.8		237.6	144
146	227.3	228.0	228.6	229.2	229.7	231.1	232.9	234.2	235.2	236.0	236.7	237.7	238.4	239.5	240.1		240.9	146
148	230.4	231.1	231.8	232.4	232.9	234.3	236.1	237.4	238.4	239.2	239.9	240.9	241.7	242.7	243.4		244.2	148
150	233.5	234.3	234.9	235.5	236.1	237.5	239.3	240.6	241.6	242.5	243.1	244.2	245.0	246.0	246.7		247.6	150
152	236.7	237.4	238.1	238.7	239.2	240.7	242.5	243.8	244.9	245.7	246.4	247.4	248.2	249.3	250.0		250.9	152
154	239.8	240.5	241.2	241.8	242.4	243.8	245.7	247.0	248.1	248.9	249.6	250.7	251.5	252.6	253.3		254.2	154
156	242.9	243.7	244.3	245.0	245.5	247.0	248.9	250.3	251.3	252.2	252.9	254.0	254.8	255.9	256.6		257.6	156
158	246.0	246.8	247.5	248.1	248.7	250.2	252.1	253.5	254.5	255.4	256.1	257.2	258.0	259.1	259.9		260.9	158
160	249.1	249.9	250.6	251.3	251.8	253.4	255.3	256.7	257.8	258.7	259.4	260.5	261.3	262.4	263.2		264.2	160
162	252.3	253.1	253.8	254.4	255.0	256.5	258.5	259.9	261.0	261.9	262.6	263.7	264.6	265.7	266.4		267.6	162
164	255.4	256.2	256.9	257.6	258.2	259.7	261.7	263.1	264.2	265.1	265.9	267.0	267.8	269.0	269.7		270.9	164
166	258.5	259.3	260.0	260.7	261.3	262.9	264.9	266.3	267.5	268.4	269.1	270.3	271.1	272.3	273.0		274.2	166
168	261.6	262.5	263.2	263.9	264.5	266.1	268.1	269.5	270.7	271.6	272.4	273.5	274.4	275.5	276.3		277.6	168
170	264.8	265.6	266.3	267.0	267.6	269.2	271.3	272.7	273.9	274.8	275.6	276.8	277.6	278.8	279.6		280.9	170
172	267.9	268.7	269.5	270.2	270.8	272.4	274.4	276.0	277.1	278.1	278.8	280.0	280.9	282.1	282.9		284.2	172
174	271.0	271.9	272.6	273.3	273.9	275.6	277.6	279.2	280.4	281.3	282.1	283.3	284.2	285.4	286.2		287.6	174
176	274.1	275.0	275.8	276.5	277.1	278.8	280.8	282.4	283.6	284.6	285.3	286.5	287.4	288.7	289.5		290.9	176
178	277.3	278.1	278.9	279.6	280.3	281.9	284.0	285.6	286.8	287.8	288.6	289.8	290.7	292.0	292.8		294.2	178
180	280.4	281.3	282.0	282.8	283.4	285.1	287.2	288.8	290.0	291.0	291.8	293.1	294.0	295.2	296.1		297.5	180
182	283.5	284.4	285.2	285.9	286.6	288.3	290.4	292.0	293.3	294.3	295.1	296.3	297.2	298.5	299.3		300.9	182
184	286.6	287.5	288.3	289.1	289.7	291.5	293.6	295.3	296.5	297.5	298.3	299.6	300.5	301.8	302.6		304.2	184
186	289.7	290.7	291.5	292.2	292.9	294.6	296.8	298.5	299.7	300.7	301.6	302.8	303.8	305.1	305.9		307.5	186
188	292.9	293.8	294.6	295.4	296.1	297.8	300.0	301.7	303.0	304.0	304.8	306.1	307.0	308.4	309.2		310.9	188
190	296.0	296.9	297.8	298.5	299.2	301.0	303.2	304.9	306.2	307.2	308.1	309.4	310.3	311.6	312.5		314.2	190
192	299.1	300.1	300.9	301.7	302.4	304.2	306.4	308.1	309.4	310.5	311.3	312.6	313.6	314.9	315.8		317.5	192
194	302.2	303.2	304.0	304.8	305.5	307.3	309.6	311.3	312.6	313.7	314.5	315.9	316.9	318.2	319.1		320.9	194
196	305.3	306.3	307.2	308.0	308.7	310.5	312.8	314.5	315.9	316.9	317.8	319.1	320.1	321.5	322.4		324.2	196
198	308.4	309.4	310.3	311.1	311.8	313.7	316.0	317.8	319.1	320.2	321.0	322.4	323.4	324.8	325.7		327.5	198
200	311.5	312.6	313.5	314.3	315.0	316.9	319.2	321.0	322.3	323.4	324.3	325.7	326.7	328.0	329.0		330.9	200
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110		k=N	N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	201.5	234.9	254.7	267.8	277.1	284.0	289.4	293.7	297.2	300.0	302.4	304.4	306.2	307.8	309.2	310.4
202	203.5	237.3	257.2	270.4	279.8	286.8	292.3	296.6	300.1	303.0	305.4	307.5	309.3	310.9	312.3	313.5
204	205.6	239.6	259.8	273.1	282.6	289.7	295.2	299.5	303.1	306.0	308.4	310.5	312.3	313.9	315.4	316.6
206	207.6	242.0	262.3	275.8	285.4	292.5	298.0	302.5	306.1	309.0	311.4	313.6	315.4	317.0	318.5	319.7
208	209.6	244.3	264.9	278.5	288.1	295.3	300.9	305.4	309.1	312.0	314.5	316.6	318.5	320.1	321.6	322.8
210	211.6	246.7	267.4	281.2	290.9	298.2	303.8	308.3	312.0	315.0	317.5	319.6	321.5	323.2	324.6	326.0
212	213.6	249.0	270.0	283.8	293.7	301.0	306.7	311.3	315.0	318.0	320.5	322.7	324.6	326.3	327.7	329.1
214	215.6	251.4	272.5	286.5	296.4	303.9	309.6	314.2	318.0	321.0	323.5	325.7	327.7	329.3	330.8	332.2
216	217.6	253.7	275.1	289.2	299.2	306.7	312.5	317.2	320.9	324.0	326.6	328.8	330.7	332.4	333.9	335.3
218	219.7	256.1	277.6	291.9	302.0	309.5	315.4	320.1	323.9	327.0	329.6	331.8	333.8	335.5	337.0	338.4
220	221.7	258.4	280.2	294.5	304.8	312.4	318.3	323.0	326.9	330.0	332.6	334.9	336.8	338.6	340.1	341.5
222	223.7	260.8	282.7	297.2	307.5	315.2	321.2	326.0	329.9	333.0	335.6	337.9	339.9	341.6	343.2	344.6
224	225.7	263.1	285.3	299.9	310.3	318.1	324.1	328.9	332.8	336.0	338.7	341.0	343.0	344.7	346.3	347.7
226	227.7	265.5	287.8	302.6	313.1	320.9	327.0	331.8	335.8	339.0	341.7	344.0	346.0	347.8	349.4	350.8
228	229.7	267.8	290.4	305.3	315.8	323.7	329.9	334.8	338.8	342.0	344.7	347.0	349.1	350.9	352.5	353.9
230	231.8	270.1	292.9	307.9	318.6	326.6	332.8	337.7	341.8	345.0	347.7	350.1	352.1	354.0	355.6	357.0
232	233.8	272.5	295.4	310.6	321.4	329.4	335.7	340.6	344.7	348.0	350.7	353.1	355.2	357.0	358.7	360.1
234	235.8	274.8	298.0	313.3	324.2	332.3	338.6	343.6	347.7	351.0	353.8	356.2	358.3	360.1	361.7	363.2
236	237.8	277.2	300.5	316.0	326.9	335.1	341.5	346.5	350.7	354.0	356.8	359.2	361.3	363.2	364.8	366.3
238	239.8	279.5	303.1	318.6	329.7	337.9	344.3	349.5	353.6	357.0	359.8	362.3	364.4	366.3	367.9	369.4
240	241.8	281.9	305.6	321.3	332.5	340.8	347.2	352.4	356.6	360.0	362.8	365.3	367.5	369.3	371.0	372.5
242	243.8	284.2	308.2	324.0	335.2	343.6	350.1	355.3	359.6	363.0	365.9	368.4	370.5	372.4	374.1	375.6
244	245.9	286.6	310.7	326.7	338.0	346.5	353.0	358.3	362.6	366.0	368.9	371.4	373.6	375.5	377.2	378.7
246	247.9	288.9	313.3	329.4	340.8	349.3	355.9	361.2	365.5	369.0	371.9	374.4	376.6	378.6	380.3	381.8
248	249.9	291.3	315.8	332.0	343.5	352.1	358.8	364.1	368.5	372.0	374.9	377.5	379.7	381.7	383.4	384.9
250	251.9	293.6	318.4	334.7	346.3	355.0	361.7	367.1	371.5	375.0	378.0	380.5	382.8	384.7	386.5	388.0
	1.008	*1.176*	*1.272*	*1.340*	*1.386*	*1.420*	*1.448*	*1.468*	*1.486*	*1.500*	*1.512*	*1.522*	*1.530*	*1.540*	*1.546*	*1.552*
300	302.3	352.4	382.0	401.7	415.6	426.0	434.1	440.5	445.8	450.0	453.6	456.6	459.3	461.7	463.8	465.6
	1.008	*1.174*	*1.274*	*1.338*	*1.384*	*1.420*	*1.446*	*1.468*	*1.486*	*1.500*	*1.510*	*1.522*	*1.532*	*1.538*	*1.546*	*1.554*
350	352.7	411.1	445.7	468.6	484.8	497.0	506.4	513.9	520.1	525.0	529.1	532.7	535.9	538.6	541.1	543.3
	1.006	*1.174*	*1.274*	*1.338*	*1.386*	*1.420*	*1.446*	*1.468*	*1.486*	*1.500*	*1.512*	*1.524*	*1.530*	*1.540*	*1.546*	*1.552*
400	403.0	469.8	509.4	535.5	554.1	568.0	578.7	587.3	594.4	600.0	604.7	608.9	612.4	615.6	618.4	620.9
	1.008	*1.176*	*1.274*	*1.340*	*1.386*	*1.420*	*1.448*	*1.468*	*1.484*	*1.500*	*1.512*	*1.522*	*1.532*	*1.538*	*1.546*	*1.552*
450	453.4	528.6	573.1	602.5	623.4	639.0	651.1	660.7	668.6	675.0	680.3	685.0	689.0	692.5	695.7	698.5
	1.008	*1.174*	*1.272*	*1.338*	*1.384*	*1.420*	*1.446*	*1.470*	*1.486*	*1.500*	*1.512*	*1.522*	*1.530*	*1.540*	*1.546*	*1.552*
500	503.8	587.3	636.7	669.4	692.6	710.0	723.4	734.2	742.9	750.0	755.9	761.1	765.5	769.5	773.0	776.1
	1.008	*1.174*	*1.274*	*1.339*	*1.386*	*1.420*	*1.447*	*1.468*	*1.486*	*1.499*	*1.512*	*1.522*	*1.532*	*1.539*	*1.546*	*1.552*
600	604.6	704.7	764.1	803.3	831.2	852.0	868.1	881.0	891.5	899.9	907.1	913.3	918.7	923.4	927.6	931.3
	1.007	*1.175*	*1.273*	*1.339*	*1.385*	*1.420*	*1.449*	*1.470*	*1.485*	*1.501*	*1.509*	*1.517*	*1.533*	*1.536*	*1.544*	*1.557*
700	705.3	822.2	891.4	937.2	969.7	994.0	1013.	1028.	1040.	1050.	1058.	1065.	1072.	1077.	1082.	1087.
	1.008	*1.174*	*1.276*	*1.338*	*1.383*	*1.420*	*1.44*	*1.47*	*1.49*	*1.50*	*1.51*	*1.53*	*1.53*	*1.54*	*1.55*	*1.55*
800	806.1	939.6	1019.	1071.	1108.	1136.	1157.	1175.	1189.	1200.	1209.	1218.	1225.	1231.	1237.	1242.
	1.008	*1.174*	*1.27*	*1.34*	*1.39*	*1.42*	*1.45*	*1.46*	*1.48*	*1.50*	*1.52*	*1.52*	*1.53*	*1.54*	*1.54*	*1.55*
900	906.9	1057.	1146.	1205.	1247.	1278.	1302.	1321.	1337.	1350.	1361.	1370.	1378.	1385.	1391.	1397.
	1.011	*1.18*	*1.27*	*1.34*	*1.38*	*1.42*	*1.45*	*1.47*	*1.49*	*1.50*	*1.51*	*1.52*	*1.53*	*1.54*	*1.55*	*1.55*
1000	1008.	1175.	1273.	1339.	1385.	1420.	1447.	1468.	1486.	1500.	1512.	1522.	1531.	1539.	1546.	1552.
	1.00	*1.17*	*1.28*	*1.34*	*1.39*	*1.42*	*1.45*	*1.47*	*1.48*	*1.50*	*1.51*	*1.52*	*1.53*	*1.54*	*1.55*	*1.55*
1100	1108.	1292.	1401.	1473.	1524.	1562.	1592.	1615.	1634.	1650.	1663.	1674.	1684.	1693.	1701.	1707.
	1.008	*1.175*	*1.273*	*1.339*	*1.385*	*1.420*	*1.447*	*1.468*	*1.486*	*1.500*	*1.512*	*1.522*	*1.531*	*1.539*	*1.546*	*1.552*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k																
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
200	311.5	312.6	313.5	314.3	315.0	316.9	319.2	321.0	322.3	323.4	324.3	325.7	326.7	328.0	329.0	330.9	200
202	314.7	315.7	316.6	317.4	318.2	320.0	322.4	324.2	325.6	326.6	327.5	328.9	329.9	331.3	332.3	334.2	202
204	317.8	318.8	319.7	320.6	321.3	323.2	325.6	327.4	328.8	329.9	330.8	332.2	333.2	334.6	335.5	337.5	204
206	320.9	321.9	322.9	323.7	324.5	326.4	328.8	330.6	332.0	333.1	334.0	335.4	336.5	337.9	338.8	340.9	206
208	324.0	325.1	326.0	326.9	327.6	329.6	332.0	333.8	335.2	336.4	337.3	338.7	339.7	341.2	342.1	344.2	208
210	327.1	328.2	329.2	330.0	330.8	332.8	335.2	337.1	338.5	339.6	340.5	341.9	343.0	344.5	345.4	347.5	210
212	330.2	331.3	332.3	333.2	334.0	335.9	338.4	340.3	341.7	342.8	343.8	345.2	346.3	347.7	348.7	350.9	212
214	333.4	334.4	335.4	336.3	337.1	339.1	341.6	343.5	344.9	346.1	347.0	348.5	349.5	351.0	352.0	354.2	214
216	336.5	337.6	338.6	339.5	340.3	342.3	344.8	346.7	348.1	349.3	350.3	351.7	352.8	354.3	355.3	357.5	216
218	339.6	340.7	341.7	342.6	343.4	345.5	348.0	349.9	351.4	352.5	353.5	355.0	356.1	357.6	358.6	360.9	218
220	342.7	343.8	344.8	345.7	346.6	348.6	351.2	353.1	354.6	355.8	356.8	358.2	359.3	360.9	361.9	364.2	220
222	345.8	346.9	348.0	348.9	349.7	351.8	354.4	356.3	357.8	359.0	360.0	361.5	362.6	364.1	365.2	367.5	222
224	348.9	350.1	351.1	352.0	352.9	355.0	357.6	359.6	361.1	362.3	363.2	364.8	365.9	367.4	368.4	370.9	224
226	352.1	353.2	354.2	355.2	356.0	358.2	360.8	362.8	364.3	365.5	366.5	368.0	369.2	370.7	371.7	374.2	226
228	355.2	356.3	357.4	358.3	359.2	361.4	364.0	366.0	367.5	368.7	369.7	371.3	372.4	374.0	375.0	377.5	228
230	358.3	359.4	360.5	361.5	362.3	364.5	367.2	369.2	370.7	372.0	373.0	374.5	375.7	377.3	378.3	380.9	230
232	361.4	362.6	363.6	364.6	365.5	367.7	370.4	372.4	374.0	375.2	376.2	377.8	379.0	380.6	381.6	384.2	232
234	364.5	365.7	366.8	367.8	368.6	370.9	373.6	375.6	377.2	378.5	379.5	381.1	382.2	383.8	384.9	387.5	234
236	367.6	368.8	369.9	370.9	371.8	374.1	376.8	378.9	380.4	381.7	382.7	384.3	385.5	387.1	388.2	390.9	236
238	370.7	371.9	373.0	374.0	375.0	377.2	380.0	382.1	383.7	384.9	386.0	387.6	388.8	390.4	391.5	394.2	238
240	373.9	375.1	376.2	377.2	378.1	380.4	383.2	385.3	386.9	388.2	389.2	390.8	392.0	393.7	394.8	397.5	240
242	377.0	378.2	379.3	380.3	381.3	383.6	386.4	388.5	390.1	391.4	392.5	394.1	395.3	397.0	398.1	400.9	242
244	380.1	381.3	382.4	383.5	384.4	386.8	389.6	391.7	393.4	394.7	395.7	397.4	398.6	400.2	401.3	404.2	244
246	383.2	384.4	385.6	386.6	387.6	390.0	392.8	394.9	396.6	397.9	399.0	400.6	401.8	403.5	404.6	407.5	246
248	386.3	387.6	388.7	389.8	390.7	393.1	396.0	398.2	399.8	401.1	402.2	403.9	405.1	406.8	407.9	410.9	248
250	389.4	390.7	391.8	392.9	393.9	396.3	399.2	401.4	403.0	404.4	405.5	407.1	408.4	410.1	411.2	414.2	250
	1.558	*1.562*	*1.568*	*1.572*	*1.574*	*1.586*	*1.602*	*1.608*	*1.616*	*1.620*	*1.622*	*1.630*	*1.634*	*1.640*	*1.646*	*1.666*	
300	467.3	468.8	470.2	471.5	472.6	475.6	479.3	481.8	483.8	485.4	486.6	488.6	490.1	492.1	493.5	497.5	300
	1.558	*1.564*	*1.568*	*1.572*	*1.576*	*1.584*	*1.596*	*1.610*	*1.616*	*1.620*	*1.626*	*1.632*	*1.636*	*1.642*	*1.646*	*1.668*	
350	545.2	547.0	548.6	550.1	551.4	554.8	559.1	562.3	564.6	566.4	567.9	570.2	571.9	574.2	575.8	580.9	350
	1.558	*1.562*	*1.568*	*1.570*	*1.576*	*1.586*	*1.598*	*1.606*	*1.614*	*1.620*	*1.624*	*1.630*	*1.634*	*1.642*	*1.644*	*1.666*	
400	623.1	625.1	627.0	628.6	630.2	634.1	639.0	642.6	645.3	647.4	649.1	651.7	653.6	656.3	658.0	664.2	400
	1.558	*1.564*	*1.566*	*1.572*	*1.574*	*1.586*	*1.598*	*1.606*	*1.614*	*1.622*	*1.624*	*1.630*	*1.636*	*1.642*	*1.646*	*1.666*	
450	701.0	703.3	705.3	707.2	708.9	713.4	718.9	722.9	726.0	728.5	730.3	733.2	735.4	738.4	740.3	747.5	450
	1.558	*1.562*	*1.568*	*1.572*	*1.576*	*1.584*	*1.598*	*1.606*	*1.614*	*1.618*	*1.626*	*1.632*	*1.636*	*1.640*	*1.646*	*1.668*	
500	778.9	781.4	783.7	785.8	787.7	792.6	798.8	803.2	806.7	809.4	811.6	814.8	817.2	820.4	822.6	830.9	500
	1.557	*1.563*	*1.567*	*1.572*	*1.576*	*1.585*	*1.597*	*1.607*	*1.613*	*1.619*	*1.623*	*1.631*	*1.635*	*1.642*	*1.646*	*1.666*	
600	934.6	937.7	940.4	943.0	945.3	951.1	958.5	963.9	968.0	971.3	973.9	977.9	980.7	984.6	987.2	997.5	600
	1.554	*1.563*	*1.566*	*1.570*	*1.577*	*1.589*	*1.595*	*1.611*	*1.610*	*1.617*	*1.621*	*1.631*	*1.633*	*1.644*	*1.648*	*1.665*	
700	1090.	1094.	1097.	1100.	1103.	1110.	1118.	1125.	1129.	1133.	1136.	1141.	1144.	1149.	1152.	1164.	700
	1.56	*1.56*	*1.57*	*1.57*	*1.57*	*1.58*	*1.60*	*1.60*	*1.62*	*1.62*	*1.63*	*1.63*	*1.64*	*1.64*	*1.64*	*1.67*	
800	1246.	1250.	1254.	1257.	1260.	1268.	1278.	1285.	1291.	1295.	1299.	1304.	1308.	1313.	1316.	1331.	800
	1.56	*1.57*	*1.57*	*1.57*	*1.58*	*1.59*	*1.60*	*1.61*	*1.61*	*1.62*	*1.62*	*1.63*	*1.63*	*1.64*	*1.65*	*1.67*	
900	1402.	1407.	1411.	1414.	1418.	1427.	1438.	1446.	1452.	1457.	1461.	1467.	1471.	1477.	1481.	1498.	900
	1.56	*1.56*	*1.56*	*1.58*	*1.57*	*1.58*	*1.60*	*1.60*	*1.61*	*1.62*	*1.62*	*1.63*	*1.64*	*1.64*	*1.65*	*1.66*	
1000	1558.	1563.	1567.	1572.	1575.	1585.	1598.	1606.	1613.	1619.	1623.	1630.	1635.	1641.	1646.	1664.	1000
	1.56	*1.56*	*1.57*	*1.57*	*1.58*	*1.59*	*1.59*	*1.61*	*1.62*	*1.62*	*1.63*	*1.63*	*1.63*	*1.65*	*1.64*	*1.67*	
1100	1714.	1719.	1724.	1729.	1733.	1744.	1757.	1767.	1775.	1781.	1786.	1793.	1798.	1806.	1810.	1831.	1100
	1.558	*1.563*	*1.567*	*1.572*	*1.575*	*1.585*	*1.598*	*1.606*	*1.613*	*1.619*	*1.623*	*1.630*	*1.635*	*1.641*	*1.646*		
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N	N
	k																

N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1																
2	2.73															
3	4.11	4.59														
4	5.48	6.13	6.50													
5	6.86	7.67	8.13	8.44												
6	8.23	9.21	9.77	10.1	10.4											
7	9.60	10.8	11.4	11.8	12.1	12.4										
8	11.0	12.3	13.0	13.5	13.9	14.1	14.3									
9	12.3	13.9	14.7	15.2	15.6	15.9	16.1	16.3								
10	13.7	15.4	16.3	16.9	17.3	17.7	17.9	18.1	18.3							
11	15.1	16.9	18.0	18.6	19.1	19.4	19.7	19.9	20.1	20.3						
12	16.5	18.5	19.6	20.3	20.8	21.2	21.5	21.7	21.9	22.1	22.2					
13	17.8	20.0	21.2	22.0	22.6	23.0	23.3	23.6	23.8	23.9	24.1	24.2				
14	19.2	21.6	22.9	23.7	24.3	24.7	25.1	25.4	25.6	25.8	25.9	26.1	26.2			
15	20.6	23.1	24.5	25.4	26.0	26.5	26.9	27.2	27.4	27.6	27.8	28.0	28.1	28.2		
16	21.9	24.6	26.2	27.1	27.8	28.3	28.7	29.0	29.3	29.5	29.7	29.8	30.0	30.1	30.2	
17	23.3	26.2	27.8	28.8	29.5	30.1	30.5	30.8	31.1	31.3	31.5	31.7	31.8	32.0	32.1	32.2
18	24.7	27.7	29.5	30.5	31.3	31.8	32.3	32.6	32.9	33.2	33.4	33.6	33.7	33.8	34.0	34.1
19	26.1	29.3	31.1	32.2	33.0	33.6	34.1	34.5	34.8	35.0	35.2	35.4	35.6	35.7	35.9	36.0
20	27.4	30.8	32.7	33.9	34.8	35.4	35.9	36.3	36.6	36.9	37.1	37.3	37.5	37.6	37.7	37.9
21	28.8	32.3	34.4	35.7	36.5	37.2	37.7	38.1	38.4	38.7	38.9	39.2	39.3	39.5	39.6	39.8
22	30.2	33.9	36.0	37.4	38.3	38.9	39.5	39.9	40.3	40.6	40.8	41.0	41.2	41.4	41.5	41.7
23	31.5	35.4	37.6	39.1	40.0	40.7	41.3	41.7	42.1	42.4	42.7	42.9	43.1	43.3	43.4	43.6
24	32.9	37.0	39.3	40.8	41.8	42.5	43.1	43.5	43.9	44.2	44.5	44.8	45.0	45.1	45.3	45.4
25	34.3	38.5	40.9	42.5	43.5	44.3	44.9	45.4	45.8	46.1	46.4	46.6	46.8	47.0	47.2	47.3
26	35.7	40.0	42.5	44.2	45.3	46.1	46.7	47.2	47.6	47.9	48.2	48.5	48.7	48.9	49.1	49.2
27	37.0	41.6	44.2	45.9	47.0	47.8	48.5	49.0	49.4	49.8	50.1	50.4	50.6	50.8	51.0	51.1
28	38.4	43.1	45.8	47.6	48.8	49.6	50.3	50.8	51.3	51.6	52.0	52.2	52.5	52.7	52.9	53.0
29	39.8	44.7	47.5	49.3	50.5	51.4	52.1	52.6	53.1	53.5	53.8	54.1	54.3	54.6	54.8	54.9
30	41.1	46.2	49.1	51.0	52.3	53.2	53.9	54.5	54.9	55.3	55.7	56.0	56.2	56.4	56.6	56.8
31	42.5	47.7	50.7	52.7	54.0	55.0	55.7	56.3	56.8	57.2	57.5	57.8	58.1	58.3	58.5	58.7
32	43.9	49.3	52.4	54.4	55.8	56.7	57.5	58.1	58.6	59.0	59.4	59.7	60.0	60.2	60.4	60.6
33	45.2	50.8	54.0	56.1	57.5	58.5	59.3	59.9	60.4	60.9	61.3	61.6	61.9	62.1	62.3	62.5
34	46.6	52.4	55.6	57.8	59.3	60.3	61.1	61.8	62.3	62.7	63.1	63.4	63.7	64.0	64.2	64.4
35	48.0	53.9	57.3	59.5	61.0	62.1	62.9	63.6	64.1	64.6	65.0	65.3	65.6	65.9	66.1	66.3
36	49.4	55.4	58.9	61.2	62.8	63.9	64.7	65.4	66.0	66.4	66.8	67.2	67.5	67.8	68.0	68.2
37	50.7	57.0	60.5	62.9	64.5	65.6	66.5	67.2	67.8	68.3	68.7	69.1	69.4	69.6	69.9	70.1
38	52.1	58.5	62.2	64.6	66.2	67.4	68.3	69.0	69.6	70.1	70.6	70.9	71.2	71.5	71.8	72.0
39	53.5	60.1	63.8	66.3	68.0	69.2	70.1	70.9	71.5	72.0	72.4	72.8	73.1	73.4	73.7	73.9
40	54.8	61.6	65.5	68.0	69.7	71.0	71.9	72.7	73.3	73.8	74.3	74.7	75.0	75.3	75.6	75.8
41	56.2	63.1	67.1	69.7	71.5	72.8	73.7	74.5	75.1	75.7	76.1	76.5	76.9	77.2	77.4	77.7
42	57.6	64.7	68.7	71.4	73.2	74.5	75.5	76.3	77.0	77.5	78.0	78.4	78.8	79.1	79.3	79.6
43	59.0	66.2	70.4	73.1	75.0	76.3	77.3	78.2	78.8	79.4	79.9	80.3	80.6	80.9	81.2	81.5
44	60.3	67.7	72.0	74.8	76.7	78.1	79.1	80.0	80.7	81.2	81.7	82.1	82.5	82.8	83.1	83.4
45	61.7	69.3	73.6	76.5	78.4	79.9	80.9	81.8	82.5	83.1	83.6	84.0	84.4	84.7	85.0	85.3
46	63.1	70.8	75.3	78.2	80.2	81.7	82.8	83.6	84.3	84.9	85.4	85.9	86.3	86.6	86.9	87.2
47	64.4	72.4	76.9	79.9	81.9	83.5	84.6	85.4	86.2	86.8	87.3	87.8	88.1	88.5	88.8	89.1
48	65.8	73.9	78.5	81.6	83.7	85.2	86.4	87.3	88.0	88.6	89.2	89.6	90.0	90.4	90.7	91.0
49	67.2	75.4	80.2	83.3	85.4	87.0	88.2	89.1	89.9	90.5	91.0	91.5	91.9	92.3	92.6	92.9
50	68.6	77.0	81.8	85.0	87.2	88.8	90.0	90.9	91.7	92.3	92.9	93.4	93.8	94.1	94.5	94.8
N \ k	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
1																1.00
2																2.73
3																4.59
4																6.50
5																8.44
6																10.4
7																12.4
8																14.3
9																16.3
10																18.3
11																20.3
12																22.2
13																24.2
14																26.2
15																28.2
16																30.2
17																32.2
18	34.2															34.2
19	36.1	36.2														36.2
20	38.0	38.1	38.2													38.2
21	39.9	40.0	40.1	40.2												40.2
22	41.8	41.9	42.0	42.1	42.1											42.1
23	43.7	43.8	43.9	44.0	44.1											44.1
24	45.6	45.7	45.8	45.9	46.0											46.1
25	47.5	47.6	47.7	47.8	47.9	48.1										48.1
26	49.4	49.5	49.6	49.7	49.8	50.1										50.1
27	51.3	51.4	51.5	51.6	51.7	52.0										52.1
28	53.2	53.3	53.4	53.5	53.6	53.9										54.1
29	55.1	55.2	55.3	55.5	55.6	55.8										56.1
30	57.0	57.1	57.3	57.4	57.5	57.8	58.1									58.1
31	58.9	59.0	59.2	59.3	59.4	59.7	60.1									60.1
32	60.8	60.9	61.1	61.2	61.3	61.6	62.0									62.1
33	62.7	62.8	63.0	63.1	63.2	63.5	63.9									64.1
34	64.6	64.7	64.9	65.0	65.2	65.5	65.9									66.1
35	66.5	66.7	66.8	66.9	67.1	67.4	67.8	68.1								68.1
36	68.4	68.6	68.7	68.9	69.0	69.3	69.7	70.0								70.1
37	70.3	70.5	70.6	70.8	70.9	71.2	71.7	72.0								72.1
38	72.2	72.4	72.5	72.7	72.8	73.2	73.6	73.9								74.1
39	74.1	74.3	74.4	74.6	74.7	75.1	75.6	75.9								76.1
40	76.0	76.2	76.4	76.5	76.7	77.0	77.5	77.8	78.1							78.1
41	77.9	78.1	78.3	78.4	78.6	79.0	79.4	79.8	80.0							80.1
42	79.8	80.0	80.2	80.3	80.5	80.9	81.4	81.7	82.0							82.1
43	81.7	81.9	82.1	82.3	82.4	82.8	83.3	83.7	83.9							84.1
44	83.6	83.8	84.0	84.2	84.3	84.7	85.2	85.6	85.9							86.1
45	85.5	85.7	85.9	86.1	86.3	86.7	87.2	87.6	87.9	88.1						88.1
46	87.4	87.6	87.8	88.0	88.2	88.6	89.1	89.5	89.8	90.0						90.1
47	89.3	89.5	89.7	89.9	90.1	90.5	91.1	91.5	91.8	92.0						92.1
48	91.2	91.4	91.6	91.8	92.0	92.4	93.0	93.4	93.7	94.0						94.1
49	93.1	93.3	93.6	93.7	93.9	94.4	94.9	95.3	95.7	95.9						96.1
50	95.0	95.3	95.5	95.7	95.8	96.3	96.9	97.3	97.6	97.9	98.1					98.1
N \ k	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
50	68.6	77.0	81.8	85.0	87.2	88.8	90.0	90.9	91.7	92.3	92.9	93.4	93.8	94.1	94.5	94.8
51	69.9	78.5	83.5	86.7	88.9	90.6	91.8	92.7	93.5	94.2	94.8	95.2	95.7	96.0	96.4	96.7
52	71.3	80.1	85.1	88.4	90.6	92.3	93.6	94.6	95.4	96.0	96.6	97.1	97.5	97.9	98.3	98.6
53	72.7	81.6	86.7	90.1	92.4	94.1	95.4	96.4	97.2	97.9	98.5	99.0	99.4	99.8	100.1	100.5
54	74.0	83.1	88.4	91.8	94.1	95.9	97.2	98.2	99.0	99.7	100.3	100.9	101.3	101.7	102.0	102.4
55	75.4	84.7	90.0	93.5	95.9	97.7	99.0	100.0	100.9	101.6	102.2	102.7	103.2	103.6	103.9	104.2
56	76.8	86.2	91.6	95.2	97.6	99.4	100.8	101.9	102.7	103.5	104.1	104.6	105.1	105.5	105.8	106.1
57	78.2	87.8	93.3	96.9	99.4	101.2	102.6	103.7	104.6	105.3	105.9	106.5	106.9	107.4	107.7	108.0
58	79.5	89.3	94.9	98.6	101.1	103.0	104.4	105.5	106.4	107.2	107.8	108.3	108.8	109.2	109.6	109.9
59	80.9	90.8	96.5	100.3	102.9	104.8	106.2	107.3	108.2	109.0	109.7	110.2	110.7	111.1	111.5	111.8
60	82.3	92.4	98.2	102.0	104.6	106.6	108.0	109.2	110.1	110.9	111.5	112.1	112.6	113.0	113.4	113.7
61	83.6	93.9	99.8	103.7	106.3	108.3	109.8	111.0	111.9	112.7	113.4	114.0	114.5	114.9	115.3	115.6
62	85.0	95.5	101.5	105.3	108.1	110.1	111.7	112.8	113.8	114.6	115.2	115.8	116.3	116.8	117.2	117.5
63	86.4	97.0	103.1	107.0	109.8	111.9	113.5	114.6	115.6	116.4	117.1	117.7	118.2	118.7	119.1	119.4
64	87.8	98.5	104.7	108.7	111.6	113.7	115.3	116.5	117.4	118.3	119.0	119.6	120.1	120.6	121.0	121.3
65	89.1	100.1	106.4	110.4	113.3	115.4	117.1	118.3	119.3	120.1	120.8	121.4	122.0	122.4	122.9	123.2
66	90.5	101.6	108.0	112.1	115.1	117.2	118.9	120.1	121.1	122.0	122.7	123.3	123.9	124.3	124.8	125.1
67	91.9	103.2	109.6	113.8	116.8	119.0	120.7	121.9	123.0	123.8	124.6	125.2	125.7	126.2	126.6	127.0
68	93.2	104.7	111.3	115.5	118.5	120.8	122.5	123.8	124.8	125.7	126.4	127.1	127.6	128.1	128.5	128.9
69	94.6	106.2	112.9	117.2	120.3	122.5	124.3	125.6	126.7	127.5	128.3	128.9	129.5	130.0	130.4	130.8
70	96.0	107.8	114.6	118.9	122.0	124.3	126.1	127.4	128.5	129.4	130.2	130.8	131.4	131.9	132.3	132.7
71	97.4	109.3	116.2	120.6	123.8	126.1	127.9	129.2	130.3	131.2	132.0	132.7	133.3	133.8	134.2	134.6
72	98.7	110.9	117.8	122.3	125.5	127.9	129.7	131.1	132.2	133.1	133.9	134.6	135.1	135.7	136.1	136.5
73	100.1	112.4	119.5	124.0	127.3	129.6	131.5	132.9	134.0	134.9	135.7	136.4	137.0	137.5	138.0	138.4
74	101.5	113.9	121.1	125.7	129.0	131.4	133.3	134.7	135.9	136.8	137.6	138.3	138.9	139.4	139.9	140.3
75	102.8	115.5	122.7	127.4	130.7	133.2	135.1	136.5	137.7	138.7	139.5	140.2	140.8	141.3	141.8	142.2
76	104.2	117.0	124.4	129.1	132.5	135.0	136.9	138.4	139.5	140.5	141.3	142.0	142.7	143.2	143.7	144.1
77	105.6	118.6	126.0	130.8	134.2	136.7	138.7	140.2	141.4	142.4	143.2	143.9	144.5	145.1	145.6	146.0
78	107.0	120.1	127.6	132.5	136.0	138.5	140.5	142.0	143.2	144.2	145.1	145.8	146.4	147.0	147.5	147.9
79	108.3	121.6	129.3	134.2	137.7	140.3	142.3	143.9	145.1	146.1	146.9	147.7	148.3	148.9	149.4	149.8
80	109.7	123.2	130.9	135.9	139.5	142.1	144.1	145.7	146.9	147.9	148.8	149.5	150.2	150.8	151.3	151.7
81	111.1	124.7	132.6	137.6	141.2	143.8	145.9	147.5	148.7	149.8	150.7	151.4	152.1	152.6	153.2	153.6
82	112.4	126.3	134.2	139.3	142.9	145.6	147.7	149.3	150.6	151.6	152.5	153.3	153.9	154.5	155.1	155.5
83	113.8	127.8	135.8	141.0	144.7	147.4	149.5	151.1	152.4	153.5	154.4	155.2	155.8	156.4	156.9	157.4
84	115.2	129.3	137.5	142.7	146.4	149.2	151.3	153.0	154.3	155.3	156.2	157.0	157.7	158.3	158.8	159.3
85	116.5	130.9	139.1	144.4	148.2	151.0	153.1	154.8	156.1	157.2	158.1	158.9	159.6	160.2	160.7	161.2
86	117.9	132.4	140.7	146.1	149.9	152.7	154.9	156.6	158.0	159.0	160.0	160.8	161.5	162.1	162.6	163.1
87	119.3	134.0	142.4	147.8	151.7	154.5	156.7	158.4	159.8	160.9	161.8	162.7	163.4	164.0	164.5	165.0
88	120.7	135.5	144.0	149.5	153.4	156.3	158.5	160.3	161.6	162.8	163.7	164.5	165.2	165.9	166.4	166.9
89	122.0	137.0	145.6	151.2	155.1	158.1	160.3	162.1	163.5	164.6	165.6	166.4	167.1	167.8	168.3	168.8
90	123.4	138.6	147.3	152.9	156.9	159.8	162.1	163.9	165.3	166.5	167.4	168.3	169.0	169.6	170.2	170.7
91	124.8	140.1	148.9	154.6	158.6	161.6	163.9	165.7	167.2	168.3	169.3	170.1	170.9	171.5	172.1	172.6
92	126.1	141.7	150.6	156.3	160.4	163.4	165.7	167.5	169.0	170.2	171.2	172.0	172.8	173.4	174.0	174.5
93	127.5	143.2	152.2	158.0	162.1	165.2	167.5	169.4	170.8	172.0	173.0	173.9	174.6	175.3	175.9	176.4
94	128.9	144.7	153.8	159.7	163.9	166.9	169.3	171.2	172.7	173.9	174.9	175.8	176.5	177.2	177.8	178.3
95	130.3	146.3	155.5	161.4	165.6	168.7	171.1	173.0	174.5	175.7	176.8	177.6	178.4	179.1	179.7	180.2
96	131.6	147.8	157.1	163.1	167.4	170.5	172.9	174.8	176.4	177.6	178.6	179.5	180.3	181.0	181.6	182.1
97	133.0	149.4	158.7	164.8	169.1	172.3	174.7	176.6	178.2	179.4	180.5	181.4	182.2	182.9	183.5	184.0
98	134.4	150.9	160.4	166.5	170.8	174.0	176.5	178.5	180.1	181.3	182.4	183.3	184.1	184.8	185.4	185.9
99	135.7	152.4	162.0	168.2	172.6	175.8	178.3	180.3	181.9	183.2	184.2	185.1	185.9	186.6	187.3	187.8
100	137.1	154.0	163.6	169.9	174.3	177.6	180.1	182.1	183.7	185.0	186.1	187.0	187.8	188.5	189.2	189.7
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
50	95.0	95.3	95.5	95.7	95.8	96.3	96.9	97.3	97.6	97.9	98.1					98.1
51	96.9	97.2	97.4	97.6	97.8	98.2	98.8	99.2	99.6	99.8	100.0					100.1
52	98.8	99.1	99.3	99.5	99.7	100.2	100.8	101.2	101.5	101.8	102.0					102.1
53	100.7	101.0	101.2	101.4	101.6	102.1	102.7	103.1	103.5	103.7	104.0					104.1
54	102.6	102.9	103.1	103.3	103.5	104.0	104.6	105.1	105.4	105.7	105.9					106.1
55	104.5	104.8	105.0	105.2	105.4	105.9	106.6	107.0	107.4	107.7	107.9					108.1
56	106.4	106.7	106.9	107.2	107.4	107.9	108.5	109.0	109.3	109.6	109.8					110.1
57	108.3	108.6	108.8	109.1	109.3	109.8	110.4	110.9	111.3	111.6	111.8					112.1
58	110.2	110.5	110.8	111.0	111.2	111.7	112.4	112.9	113.2	113.5	113.8					114.1
59	112.1	112.4	112.7	112.9	113.1	113.6	114.3	114.8	115.2	115.5	115.7					116.1
60	114.0	114.3	114.6	114.8	115.0	115.6	116.3	116.8	117.1	117.4	117.7	118.1				118.1
61	116.0	116.2	116.5	116.7	116.9	117.5	118.2	118.7	119.1	119.4	119.7	120.0				120.1
62	117.9	118.1	118.4	118.6	118.9	119.4	120.1	120.7	121.0	121.4	121.6	122.0				122.1
63	119.8	120.1	120.3	120.6	120.8	121.4	122.1	122.6	123.0	123.3	123.6	124.0				124.1
64	121.7	122.0	122.2	122.5	122.7	123.3	124.0	124.5	125.0	125.3	125.5	125.9				126.1
65	123.6	123.9	124.1	124.4	124.6	125.2	126.0	126.5	126.9	127.2	127.5	127.9				128.1
66	125.5	125.8	126.1	126.3	126.5	127.1	127.9	128.4	128.9	129.2	129.5	129.9				130.1
67	127.4	127.7	128.0	128.2	128.5	129.1	129.8	130.4	130.8	131.2	131.4	131.8				132.1
68	129.3	129.6	129.9	130.1	130.4	131.0	131.8	132.3	132.8	133.1	133.4	133.8				134.1
69	131.2	131.5	131.8	132.1	132.3	132.9	133.7	134.3	134.7	135.1	135.3	135.8				136.1
70	133.1	133.4	133.7	134.0	134.2	134.9	135.6	136.2	136.7	137.0	137.3	137.7	138.1			138.1
71	135.0	135.3	135.6	135.9	136.1	136.8	137.6	138.2	138.6	139.0	139.3	139.7	140.0			140.1
72	136.9	137.2	137.5	137.8	138.1	138.7	139.5	140.1	140.6	140.9	141.2	141.7	142.0			142.1
73	138.8	139.1	139.4	139.7	140.0	140.6	141.5	142.1	142.5	142.9	143.2	143.6	144.0			144.1
74	140.7	141.0	141.4	141.6	141.9	142.6	143.4	144.0	144.5	144.9	145.2	145.6	145.9			146.1
75	142.6	143.0	143.3	143.6	143.8	144.5	145.3	146.0	146.4	146.8	147.1	147.6	147.9			148.0
76	144.5	144.9	145.2	145.5	145.7	146.4	147.3	147.9	148.4	148.8	149.1	149.5	149.9			150.0
77	146.4	146.8	147.1	147.4	147.7	148.4	149.2	149.9	150.3	150.7	151.0	151.5	151.9			152.0
78	148.3	148.7	149.0	149.3	149.6	150.3	151.2	151.8	152.3	152.7	153.0	153.5	153.8			154.0
79	150.2	150.6	150.9	151.2	151.5	152.2	153.1	153.8	154.3	154.6	155.0	155.5	155.8			156.0
80	152.1	152.5	152.8	153.1	153.4	154.1	155.0	155.7	156.2	156.6	156.9	157.4	157.8			158.0
81	154.0	154.4	154.7	155.1	155.3	156.1	157.0	157.6	158.2	158.6	158.9	159.4	159.7			160.0
82	155.9	156.3	156.7	157.0	157.3	158.0	158.9	159.6	160.1	160.5	160.9	161.4	161.7			162.0
83	157.8	158.2	158.6	158.9	159.2	159.9	160.9	161.5	162.1	162.5	162.8	163.3	163.7			164.0
84	159.7	160.1	160.5	160.8	161.1	161.8	162.8	163.5	164.0	164.4	164.8	165.3	165.7			166.0
85	161.6	162.0	162.4	162.7	163.0	163.8	164.7	165.4	166.0	166.4	166.7	167.3	167.6			168.0
86	163.6	163.9	164.3	164.6	164.9	165.7	166.7	167.4	167.9	168.4	168.7	169.2	169.6			170.0
87	165.5	165.9	166.2	166.6	166.9	167.6	168.6	169.3	169.9	170.3	170.7	171.2	171.6			172.0
88	167.4	167.8	168.1	168.5	168.8	169.6	170.6	171.3	171.8	172.3	172.6	173.2	173.6			174.0
89	169.3	169.7	170.0	170.4	170.7	171.5	172.5	173.2	173.8	174.2	174.6	175.1	175.5			176.0
90	171.2	171.6	172.0	172.3	172.6	173.4	174.4	175.2	175.7	176.2	176.5	177.1	177.5	178.0		178.0
91	173.1	173.5	173.9	174.2	174.5	175.3	176.4	177.1	177.7	178.1	178.5	179.1	179.5	180.0		180.0
92	175.0	175.4	175.8	176.1	176.5	177.3	178.3	179.1	179.6	180.1	180.5	181.0	181.4	182.0		182.0
93	176.9	177.3	177.7	178.1	178.4	179.2	180.2	181.0	181.6	182.1	182.4	183.0	183.4	184.0		184.0
94	178.8	179.2	179.6	180.0	180.3	181.1	182.2	183.0	183.6	184.0	184.4	185.0	185.4	186.0		186.0
95	180.7	181.1	181.5	181.9	182.2	183.1	184.1	184.9	185.5	186.0	186.4	186.9	187.4	187.9		188.0
96	182.6	183.0	183.4	183.8	184.1	185.0	186.1	186.9	187.5	187.9	188.3	188.9	189.3	189.9		190.0
97	184.5	184.9	185.4	185.7	186.1	186.9	188.0	188.8	189.4	189.9	190.3	190.9	191.3	191.9		192.0
98	186.4	186.9	187.3	187.6	188.0	188.9	189.9	190.7	191.4	191.9	192.2	192.8	193.3	193.9		194.0
99	188.3	188.8	189.2	189.6	189.9	190.8	191.9	192.7	193.3	193.8	194.2	194.8	195.3	195.8		196.0
100	190.2	190.7	191.1	191.5	191.8	192.7	193.8	194.6	195.3	195.8	196.2	196.8	197.2	197.8		198.0
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
100	137.1	154.0	163.6	169.9	174.3	177.6	180.1	182.1	183.7	185.0	186.1	187.0	187.8	188.5	189.2	189.7
102	139.9	157.1	166.9	173.3	177.8	181.1	183.7	185.8	187.4	188.7	189.8	190.8	191.6	192.3	192.9	193.5
104	142.6	160.1	170.2	176.7	181.3	184.7	187.3	189.4	191.1	192.4	193.5	194.5	195.3	196.1	196.7	197.3
106	145.3	163.2	173.5	180.1	184.8	188.2	190.9	193.0	194.8	196.1	197.3	198.3	199.1	199.9	200.5	201.1
108	148.1	166.3	176.7	183.5	188.3	191.8	194.5	196.7	198.4	199.8	201.0	202.0	202.9	203.6	204.3	204.9
110	150.8	169.4	180.0	186.9	191.8	195.3	198.1	200.3	202.1	203.6	204.7	205.8	206.6	207.4	208.1	208.7
112	153.6	172.5	183.3	190.3	195.2	198.9	201.7	204.0	205.8	207.3	208.5	209.5	210.4	211.2	211.9	212.5
114	156.3	175.5	186.6	193.7	198.7	202.5	205.3	207.6	209.5	211.0	212.2	213.3	214.2	215.0	215.7	216.3
116	159.1	178.6	189.8	197.1	202.2	206.0	208.9	211.2	213.1	214.7	215.9	217.0	217.9	218.8	219.5	220.1
118	161.8	181.7	193.1	200.5	205.7	209.6	212.5	214.9	216.8	218.4	219.7	220.8	221.7	222.5	223.3	223.9
120	164.5	184.8	196.4	203.9	209.2	213.1	216.1	218.5	220.5	222.1	223.4	224.5	225.5	226.3	227.1	227.7
122	167.3	187.9	199.6	207.3	212.7	216.7	219.7	222.2	224.2	225.8	227.1	228.3	229.2	230.1	230.9	231.5
124	170.0	190.9	202.9	210.7	216.2	220.2	223.3	225.8	227.8	229.5	230.8	232.0	233.0	233.9	234.6	235.3
126	172.8	194.0	206.2	214.1	219.6	223.8	226.9	229.5	231.5	233.2	234.6	235.8	236.8	237.6	238.4	239.1
128	175.5	197.1	209.5	217.5	223.1	227.3	230.5	233.1	235.2	236.9	238.3	239.5	240.5	241.4	242.2	242.9
130	178.3	200.2	212.7	220.9	226.6	230.9	234.1	236.7	238.9	240.6	242.0	243.3	244.3	245.2	246.0	246.7
132	181.0	203.2	216.0	224.3	230.1	234.4	237.7	240.4	242.5	244.3	245.7	247.0	248.1	249.0	249.8	250.5
134	183.7	206.3	219.3	227.7	233.6	238.0	241.3	244.0	246.2	248.0	249.5	250.7	251.8	252.8	253.6	254.3
136	186.5	209.4	222.6	231.1	237.1	241.5	244.9	247.7	249.9	251.7	253.2	254.5	255.6	256.5	257.4	258.1
138	189.2	212.5	225.8	234.5	240.6	245.1	248.5	251.3	253.6	255.4	256.9	258.2	259.4	260.3	261.2	262.0
140	192.0	215.6	229.1	237.9	244.1	248.6	252.1	255.0	257.2	259.1	260.6	262.0	263.1	264.1	265.0	265.8
142	194.7	218.6	232.4	241.3	247.5	252.2	255.8	258.6	260.9	262.8	264.4	265.7	266.9	267.9	268.8	269.6
144	197.4	221.7	235.6	244.7	251.0	255.7	259.4	262.2	264.6	266.5	268.1	269.4	270.6	271.7	272.6	273.4
146	200.2	224.8	238.9	248.1	254.5	259.3	263.0	265.9	268.3	270.2	271.8	273.2	274.4	275.4	276.4	277.2
148	202.9	227.9	242.2	251.5	258.0	262.8	266.6	269.5	271.9	273.9	275.5	276.9	278.2	279.2	280.1	281.0
150	205.7	231.0	245.5	254.9	261.5	266.4	270.2	273.2	275.6	277.6	279.2	280.7	281.9	283.0	283.9	284.8
152	208.4	234.0	248.7	258.3	265.0	269.9	273.8	276.8	279.3	281.3	283.0	284.4	285.7	286.8	287.7	288.6
154	211.2	237.1	252.0	261.7	268.5	273.5	277.4	280.4	283.0	285.0	286.7	288.2	289.4	290.6	291.5	292.4
156	213.9	240.2	255.3	265.1	271.9	277.0	281.0	284.1	286.6	288.7	290.4	291.9	293.2	294.3	295.3	296.2
158	216.6	243.3	258.6	268.5	275.4	280.6	284.6	287.7	290.3	292.4	294.1	295.6	297.0	298.1	299.1	300.0
160	219.4	246.4	261.8	271.9	278.9	284.1	288.2	291.4	294.0	296.1	297.9	299.4	300.7	301.9	302.9	303.8
162	222.1	249.4	265.1	275.3	282.4	287.7	291.8	295.0	297.7	299.8	301.6	303.1	304.5	305.6	306.7	307.6
164	224.9	252.5	268.4	278.7	285.9	291.2	295.4	298.7	301.3	303.5	305.3	306.9	308.2	309.4	310.5	311.4
166	227.6	255.6	271.6	282.1	289.4	294.8	299.0	302.3	305.0	307.2	309.0	310.6	312.0	313.2	314.3	315.2
168	230.4	258.7	274.9	285.5	292.9	298.3	302.6	305.9	308.7	310.9	312.8	314.4	315.7	317.0	318.0	319.0
170	233.1	261.8	278.2	288.9	296.4	301.9	306.2	309.6	312.4	314.6	316.5	318.1	319.5	320.7	321.8	322.8
172	235.8	264.8	281.5	292.3	299.8	305.5	309.8	313.2	316.0	318.3	320.2	321.8	323.3	324.5	325.6	326.6
174	238.6	267.9	284.7	295.7	303.3	309.0	313.4	316.9	319.7	322.0	323.9	325.6	327.0	328.3	329.4	330.4
176	241.3	271.0	288.0	299.1	306.8	312.6	317.0	320.5	323.4	325.7	327.6	329.3	330.8	332.1	333.2	334.2
178	244.1	274.1	291.3	302.5	310.3	316.1	320.6	324.2	327.1	329.4	331.4	333.1	334.5	335.8	337.0	338.0
180	246.8	277.2	294.6	305.9	313.8	319.7	324.2	327.8	330.7	333.1	335.1	336.8	338.3	339.6	340.8	341.8
182	249.6	280.2	297.8	309.3	317.3	323.2	327.8	331.4	334.4	336.8	338.8	340.6	342.1	343.4	344.5	345.6
184	252.3	283.3	301.1	312.7	320.8	326.8	331.4	335.1	338.1	340.5	342.5	344.3	345.8	347.2	348.3	349.4
186	255.0	286.4	304.4	316.0	324.2	330.3	335.0	338.7	341.8	344.2	346.3	348.0	349.6	350.9	352.1	353.2
188	257.8	289.5	307.7	319.4	327.7	333.9	338.6	342.4	345.4	347.9	350.0	351.8	353.3	354.7	355.9	357.0
190	260.5	292.6	310.9	322.8	331.2	337.4	342.2	346.0	349.1	351.6	353.7	355.5	357.1	358.5	359.7	360.8
192	263.3	295.6	314.2	326.2	334.7	341.0	345.8	349.6	352.8	355.3	357.4	359.3	360.9	362.2	363.5	364.6
194	266.0	298.7	317.5	329.6	338.2	344.5	349.4	353.3	356.5	359.0	361.2	363.0	364.6	366.0	367.3	368.4
196	268.7	301.8	320.7	333.0	341.7	348.1	353.0	356.9	360.1	362.7	364.9	366.7	368.4	369.8	371.1	372.2
198	271.5	304.9	324.0	336.4	345.2	351.6	356.6	360.6	363.8	366.4	368.6	370.5	372.1	373.6	374.8	376.0
200	274.2	308.0	327.3	339.8	348.6	355.2	360.2	364.2	367.5	370.1	372.3	374.2	375.9	377.3	378.6	379.8
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
100	190.2	190.7	191.1	191.5	191.8	192.7	193.8	194.6	195.3	195.8	196.2	196.8	197.2	197.8		198.0
102	194.0	194.5	194.9	195.3	195.7	196.6	197.7	198.5	199.2	199.7	200.1	200.7	201.2	201.8		202.0
104	197.8	198.3	198.7	199.1	199.5	200.4	201.6	202.4	203.1	203.6	204.0	204.7	205.1	205.7		206.0
106	201.7	202.1	202.6	203.0	203.3	204.3	205.5	206.3	207.0	207.5	207.9	208.6	209.1	209.7		210.0
108	205.5	206.0	206.4	206.8	207.2	208.1	209.3	210.2	210.9	211.4	211.9	212.5	213.0	213.7		214.0
110	209.3	209.8	210.2	210.6	211.0	212.0	213.2	214.1	214.8	215.3	215.8	216.5	216.9	217.6	218.0	218.0
112	213.1	213.6	214.1	214.5	214.9	215.9	217.1	218.0	218.7	219.3	219.7	220.4	220.9	221.6	222.0	222.0
114	216.9	217.4	217.9	218.3	218.7	219.7	221.0	221.9	222.6	223.2	223.6	224.3	224.8	225.5	226.0	226.0
116	220.7	221.2	221.7	222.1	222.5	223.6	224.9	225.8	226.5	227.1	227.6	228.3	228.8	229.5	229.9	230.0
118	224.5	225.1	225.5	226.0	226.4	227.4	228.7	229.7	230.4	231.0	231.5	232.2	232.7	233.4	233.9	234.0
120	228.3	228.9	229.4	229.8	230.2	231.3	232.6	233.6	234.3	234.9	235.4	236.1	236.7	237.4	237.9	238.0
122	232.1	232.7	233.2	233.7	234.1	235.1	236.5	237.5	238.2	238.8	239.3	240.1	240.6	241.3	241.8	242.0
124	236.0	236.5	237.0	237.5	237.9	239.0	240.4	241.4	242.2	242.8	243.3	244.0	244.6	245.3	245.8	246.0
126	239.8	240.3	240.9	241.3	241.8	242.9	244.3	245.3	246.1	246.7	247.2	248.0	248.5	249.3	249.7	250.0
128	243.6	244.2	244.7	245.2	245.6	246.7	248.1	249.2	250.0	250.6	251.1	251.9	252.5	253.2	253.7	254.0
130	247.4	248.0	248.5	249.0	249.4	250.6	252.0	253.1	253.9	254.5	255.0	255.8	256.4	257.2	257.7	258.0
132	251.2	251.8	252.3	252.8	253.3	254.4	255.9	257.0	257.8	258.4	259.0	259.8	260.3	261.1	261.6	262.0
134	255.0	255.6	256.2	256.7	257.1	258.3	259.8	260.9	261.7	262.4	262.9	263.7	264.3	265.1	265.6	266.0
136	258.8	259.4	260.0	260.5	261.0	262.2	263.7	264.8	265.6	266.3	266.8	267.6	268.2	269.0	269.6	270.0
138	262.6	263.3	263.8	264.3	264.8	266.0	267.5	268.7	269.5	270.2	270.7	271.6	272.2	273.0	273.5	274.0
140	266.5	267.1	267.7	268.2	268.7	269.9	271.4	272.6	273.4	274.1	274.7	275.5	276.1	277.0	277.5	278.0
142	270.3	270.9	271.5	272.0	272.5	273.7	275.3	276.4	277.3	278.0	278.6	279.4	280.1	280.9	281.5	282.0
144	274.1	274.7	275.3	275.8	276.3	277.6	279.2	280.3	281.2	281.9	282.5	283.4	284.0	284.9	285.4	286.0
146	277.9	278.5	279.1	279.7	280.2	281.5	283.1	284.2	285.1	285.9	286.4	287.3	288.0	288.8	289.4	290.0
148	281.7	282.4	283.0	283.5	284.0	285.3	286.9	288.1	289.0	289.8	290.4	291.3	291.9	292.8	293.4	294.0
150	285.5	286.2	286.8	287.4	287.9	289.2	290.8	292.0	293.0	293.7	294.3	295.2	295.9	296.7	297.3	298.0
152	289.3	290.0	290.6	291.2	291.7	293.0	294.7	295.9	296.9	297.6	298.2	299.1	299.8	300.7	301.3	302.0
154	293.1	293.8	294.5	295.0	295.6	296.9	298.6	299.8	300.8	301.5	302.1	303.1	303.7	304.7	305.3	306.0
156	297.0	297.7	298.3	298.9	299.4	300.8	302.5	303.7	304.7	305.4	306.1	307.0	307.7	308.6	309.2	310.0
158	300.8	301.5	302.1	302.7	303.2	304.6	306.3	307.6	308.6	309.4	310.0	310.9	311.6	312.6	313.2	314.0
160	304.6	305.3	305.9	306.5	307.1	308.5	310.2	311.5	312.5	313.3	313.9	314.9	315.6	316.5	317.1	318.0
162	308.4	309.1	309.8	310.4	310.9	312.3	314.1	315.4	316.4	317.2	317.8	318.8	319.5	320.5	321.1	322.0
164	312.2	312.9	313.6	314.2	314.8	316.2	318.0	319.3	320.3	321.1	321.8	322.7	323.5	324.4	325.1	326.0
166	316.0	316.8	317.4	318.1	318.6	320.1	321.9	323.2	324.2	325.0	325.7	326.7	327.4	328.4	329.0	330.0
168	319.8	320.6	321.3	321.9	322.5	323.9	325.8	327.1	328.1	328.9	329.6	330.6	331.4	332.4	333.0	334.0
170	323.6	324.4	325.1	325.7	326.3	327.8	329.6	331.0	332.0	332.9	333.5	334.6	335.3	336.3	337.0	338.0
172	327.5	328.2	328.9	329.6	330.1	331.6	333.5	334.9	335.9	336.8	337.5	338.5	339.2	340.3	340.9	342.0
174	331.3	332.1	332.8	333.4	334.0	335.5	337.4	338.8	339.9	340.7	341.4	342.4	343.2	344.2	344.9	346.0
176	335.1	335.9	336.6	337.2	337.8	339.4	341.3	342.7	343.8	344.6	345.3	346.4	347.1	348.2	348.9	350.0
178	338.9	339.7	340.4	341.1	341.7	343.2	345.2	346.6	347.7	348.5	349.2	350.3	351.1	352.1	352.8	354.0
180	342.7	343.5	344.2	344.9	345.5	347.1	349.0	350.5	351.6	352.5	353.2	354.2	355.0	356.1	356.8	358.0
182	346.5	347.3	348.1	348.8	349.4	350.9	352.9	354.4	355.5	356.4	357.1	358.2	359.0	360.1	360.8	362.0
184	350.3	351.2	351.9	352.6	353.2	354.8	356.8	358.3	359.4	360.3	361.0	362.1	362.9	364.0	364.7	366.0
186	354.1	355.0	355.7	356.4	357.1	358.7	360.7	362.2	363.3	364.2	364.9	366.1	366.9	368.0	368.7	370.0
188	357.9	358.8	359.6	360.3	360.9	362.5	364.6	366.1	367.2	368.1	368.9	370.0	370.8	371.9	372.6	374.0
190	361.8	362.6	363.4	364.1	364.7	366.4	368.4	370.0	371.1	372.0	372.8	373.9	374.8	375.9	376.6	378.0
192	365.6	366.4	367.2	367.9	368.6	370.2	372.3	373.9	375.0	376.0	376.7	377.9	378.7	379.8	380.6	382.0
194	369.4	370.3	371.1	371.8	372.4	374.1	376.2	377.8	378.9	379.9	380.6	381.8	382.6	383.8	384.5	386.0
196	373.2	374.1	374.9	375.6	376.3	378.0	380.1	381.7	382.8	383.8	384.6	385.7	386.6	387.8	388.5	390.0
198	377.0	377.9	378.7	379.5	380.1	381.8	384.0	385.5	386.8	387.7	388.5	389.7	390.5	391.7	392.5	394.0
200	380.8	381.7	382.6	383.3	384.0	385.7	387.9	389.4	390.7	391.6	392.4	393.6	394.5	395.7	396.4	398.0
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

N	k															
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
200	274.2	308.0	327.3	339.8	348.6	355.2	360.2	364.2	367.5	370.1	372.3	374.2	375.9	377.3	378.6	379.8
202	277.0	311.0	330.6	343.2	352.1	358.7	363.8	367.9	371.2	373.8	376.0	378.0	379.6	381.1	382.4	383.6
204	279.7	314.1	333.8	346.6	355.6	362.3	367.4	371.5	374.8	377.5	379.8	381.7	383.4	384.9	386.2	387.4
206	282.5	317.2	337.1	350.0	359.1	365.8	371.0	375.1	378.5	381.2	383.5	385.5	387.2	388.7	390.0	391.2
208	285.2	320.3	340.4	353.4	362.6	369.4	374.6	378.8	382.2	384.9	387.2	389.2	390.9	392.4	393.8	395.0
210	287.9	323.4	343.7	356.8	366.1	372.9	378.2	382.4	385.8	388.6	390.9	392.9	394.7	396.2	397.6	398.8
212	290.7	326.4	346.9	360.2	369.6	376.5	381.8	386.1	389.5	392.3	394.7	396.7	398.4	400.0	401.3	402.6
214	293.4	329.5	350.2	363.6	373.1	380.0	385.4	389.7	393.2	396.0	398.4	400.4	402.2	403.8	405.1	406.4
216	296.2	332.6	353.5	367.0	376.5	383.6	389.0	393.4	396.9	399.7	402.1	404.2	406.0	407.5	408.9	410.1
218	298.9	335.7	356.7	370.4	380.0	387.1	392.6	397.0	400.5	403.4	405.8	407.9	409.7	411.3	412.7	413.9
220	301.7	338.7	360.0	373.8	383.5	390.7	396.2	400.6	404.2	407.1	409.6	411.7	413.5	415.1	416.5	417.7
222	304.4	341.8	363.3	377.2	387.0	394.2	399.8	404.3	407.9	410.8	413.3	415.4	417.2	418.8	420.3	421.5
224	307.1	344.9	366.6	380.6	390.5	397.8	403.4	407.9	411.6	414.5	417.0	419.1	421.0	422.6	424.1	425.3
226	309.9	348.0	369.8	384.0	394.0	401.4	407.0	411.6	415.2	418.2	420.7	422.9	424.8	426.4	427.8	429.1
228	312.6	351.1	373.1	387.4	397.5	404.9	410.6	415.2	418.9	421.9	424.5	426.6	428.5	430.2	431.6	432.9
230	315.4	354.1	376.4	390.8	400.9	408.5	414.2	418.8	422.6	425.6	428.2	430.4	432.3	433.9	435.4	436.7
232	318.1	357.2	379.7	394.2	404.4	412.0	417.8	422.5	426.3	429.3	431.9	434.1	436.0	437.7	439.2	440.5
234	320.9	360.3	382.9	397.6	407.9	415.6	421.4	426.1	429.9	433.0	435.6	437.9	439.8	441.5	443.0	444.3
236	323.6	363.4	386.2	401.0	411.4	419.1	425.1	429.8	433.6	436.7	439.3	441.6	443.6	445.3	446.8	448.1
238	326.3	366.5	389.5	404.4	414.9	422.7	428.7	433.4	437.3	440.4	443.1	445.3	447.3	449.0	450.6	451.9
240	329.1	369.5	392.7	407.8	418.4	426.2	432.3	437.1	441.0	444.1	446.8	449.1	451.1	452.8	454.3	455.7
242	331.8	372.6	396.0	411.2	421.9	429.8	435.9	440.7	444.6	447.8	450.5	452.8	454.8	456.6	458.1	459.5
244	334.6	375.7	399.3	414.6	425.4	433.3	439.5	444.3	448.3	451.5	454.2	456.6	458.6	460.4	461.9	463.3
246	337.3	378.8	402.6	418.0	428.8	436.9	443.1	448.0	452.0	455.2	458.0	460.3	462.3	464.1	465.7	467.1
248	340.0	381.9	405.8	421.4	432.3	440.4	446.7	451.6	455.7	458.9	461.7	464.0	466.1	467.9	469.5	470.9
250	342.8	384.9	409.1	424.8	435.8	444.0	450.3	455.3	459.3	462.6	465.4	467.8	469.9	471.7	473.3	474.7
	1.370	*1.540*	*1.636*	*1.700*	*1.744*	*1.776*	*1.800*	*1.820*	*1.838*	*1.852*	*1.862*	*1.872*	*1.878*	*1.886*	*1.892*	*1.900*
300	411.3	461.9	490.9	509.8	523.0	532.8	540.3	546.3	551.2	555.2	558.5	561.4	563.8	566.0	567.9	569.7
	1.372	*1.540*	*1.638*	*1.698*	*1.742*	*1.776*	*1.802*	*1.822*	*1.838*	*1.850*	*1.862*	*1.870*	*1.880*	*1.886*	*1.894*	*1.898*
350	479.9	538.9	572.8	594.7	610.1	621.6	630.4	637.4	643.1	647.7	651.6	654.9	657.8	660.3	662.6	664.6
	1.372	*1.540*	*1.636*	*1.700*	*1.744*	*1.776*	*1.800*	*1.820*	*1.838*	*1.850*	*1.862*	*1.872*	*1.880*	*1.888*	*1.892*	*1.898*
400	548.5	615.9	654.6	679.7	697.3	710.4	720.4	728.4	735.0	740.2	744.7	748.5	751.8	754.7	757.2	759.5
	1.370	*1.540*	*1.636*	*1.698*	*1.744*	*1.776*	*1.802*	*1.822*	*1.836*	*1.850*	*1.860*	*1.870*	*1.880*	*1.886*	*1.894*	*1.900*
450	617.0	692.9	736.4	764.6	784.5	799.2	810.5	819.5	826.8	832.7	837.7	842.0	845.8	849.0	851.9	854.5
	1.372	*1.540*	*1.636*	*1.700*	*1.742*	*1.774*	*1.800*	*1.820*	*1.838*	*1.852*	*1.862*	*1.872*	*1.878*	*1.888*	*1.894*	*1.898*
500	685.6	769.9	818.2	849.6	871.6	887.9	900.5	910.5	918.7	925.3	930.8	935.6	939.7	943.4	946.6	949.4
	1.371	*1.540*	*1.637*	*1.704*	*1.744*	*1.781*	*1.805*	*1.825*	*1.833*	*1.847*	*1.862*	*1.874*	*1.883*	*1.886*	*1.894*	*1.896*
600	822.7	923.9	981.9	1020.	1046.	1066.	1081.	1093.	1102.	1110.	1117.	1123.	1128.	1132.	1136.	1139.
	1.371	*1.541*	*1.641*	*1.69*	*1.74*	*1.77*	*1.80*	*1.82*	*1.84*	*1.85*	*1.86*	*1.87*	*1.88*	*1.89*	*1.89*	*1.90*
700	959.8	1078.	1146.	1189.	1220.	1243.	1261.	1275.	1286.	1295.	1303.	1310.	1316.	1321.	1325.	1329.
	1.372	*1.54*	*1.63*	*1.70*	*1.75*	*1.78*	*1.80*	*1.82*	*1.84*	*1.85*	*1.86*	*1.87*	*1.88*	*1.88*	*1.89*	*1.90*
800	1097.	1232.	1309.	1359.	1395.	1421.	1441.	1457.	1470.	1480.	1489.	1497.	1504.	1509.	1514.	1519.
	1.37	*1.54*	*1.64*	*1.70*	*1.74*	*1.77*	*1.80*	*1.82*	*1.84*	*1.85*	*1.86*	*1.87*	*1.88*	*1.89*	*1.90*	*1.90*
900	1234.	1386.	1473.	1529.	1569.	1598.	1621.	1639.	1654.	1665.	1675.	1684.	1692.	1698.	1704.	1709.
	1.37	*1.54*	*1.63*	*1.70*	*1.74*	*1.78*	*1.80*	*1.82*	*1.83*	*1.86*	*1.87*	*1.87*	*1.87*	*1.89*	*1.89*	*1.90*
1000	1371.	1540.	1636.	1699.	1743.	1776.	1801.	1821.	1837.	1851.	1862.	1871.	1879.	1887.	1893.	1899.
	1.37	*1.54*	*1.64*	*1.70*	*1.75*	*1.77*	*1.80*	*1.82*	*1.84*	*1.85*	*1.86*	*1.87*	*1.88*	*1.88*	*1.89*	*1.90*
1100	1508.	1694.	1800.	1869.	1918.	1953.	1981.	2003.	2021.	2036.	2048.	2058.	2067.	2075.	2082.	2089.
	1.371	*1.540*	*1.636*	*1.699*	*1.743*	*1.776*	*1.801*	*1.821*	*1.837*	*1.851*	*1.862*	*1.871*	*1.879*	*1.887*	*1.893*	*1.899*
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	k															

N	k															k=N
	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	
200	380.8	381.7	382.6	383.3	384.0	385.7	387.9	389.4	390.7	391.6	392.4	393.6	394.5	395.7	396.4	398.0
202	384.6	385.5	386.4	387.1	387.8	389.6	391.7	393.3	394.6	395.5	396.3	397.6	398.4	399.6	400.4	402.0
204	388.4	389.4	390.2	391.0	391.7	393.4	395.6	397.2	398.5	399.5	400.3	401.5	402.4	403.6	404.4	406.0
206	392.2	393.2	394.0	394.8	395.5	397.3	399.5	401.1	402.4	403.4	404.2	405.4	406.3	407.5	408.3	410.0
208	396.0	397.0	397.9	398.6	399.3	401.1	403.4	405.0	406.3	407.3	408.1	409.4	410.3	411.5	412.3	414.0
210	399.8	400.8	401.7	402.5	403.2	405.0	407.3	408.9	410.2	411.2	412.0	413.3	414.2	415.5	416.3	418.0
212	403.6	404.6	405.5	406.3	407.0	408.9	411.2	412.8	414.1	415.1	416.0	417.2	418.2	419.4	420.2	422.0
214	407.4	408.4	409.3	410.1	410.9	412.7	415.0	416.7	418.0	419.1	419.9	421.2	422.1	423.4	424.2	426.0
216	411.3	412.3	413.2	414.0	414.7	416.6	418.9	420.6	421.9	423.0	423.8	425.1	426.0	427.3	428.2	430.0
218	415.1	416.1	417.0	417.8	418.6	420.4	422.8	424.5	425.8	426.9	427.7	429.0	430.0	431.3	432.1	434.0
220	418.9	419.9	420.8	421.6	422.4	424.3	426.7	428.4	429.8	430.8	431.7	433.0	433.9	435.2	436.1	438.0
222	422.7	423.7	424.6	425.5	426.3	428.2	430.6	432.3	433.7	434.7	435.6	436.9	437.9	439.2	440.0	442.0
224	426.5	427.5	428.5	429.3	430.1	432.0	434.4	436.2	437.6	438.6	439.5	440.9	441.8	443.2	444.0	446.0
226	430.3	431.3	432.3	433.1	433.9	435.9	438.3	440.1	441.5	442.6	443.4	444.8	445.8	447.1	448.0	450.0
228	434.1	435.2	436.1	437.0	437.8	439.8	442.2	444.0	445.4	446.5	447.4	448.7	449.7	451.1	451.9	454.0
230	437.9	439.0	439.9	440.8	441.6	443.6	446.1	447.9	449.3	450.4	451.3	452.7	453.7	455.0	455.9	458.0
232	441.7	442.8	443.8	444.6	445.5	447.5	450.0	451.8	453.2	454.3	455.2	456.6	457.6	459.0	459.9	462.0
234	445.5	446.6	447.6	448.5	449.3	451.3	453.9	455.7	457.1	458.2	459.2	460.5	461.6	462.9	463.8	466.0
236	449.3	450.4	451.4	452.3	453.1	455.2	457.7	459.6	461.0	462.2	463.1	464.5	465.5	466.9	467.8	470.0
238	453.1	454.2	455.2	456.1	457.0	459.1	461.6	463.5	464.9	466.1	467.0	468.4	469.5	470.9	471.8	474.0
240	457.0	458.1	459.1	460.0	460.8	462.9	465.5	467.4	468.8	470.0	470.9	472.4	473.4	474.8	475.7	478.0
242	460.8	461.9	462.9	463.8	464.7	466.8	469.4	471.3	472.8	473.9	474.9	476.3	477.3	478.8	479.7	482.0
244	464.6	465.7	466.7	467.6	468.5	470.7	473.3	475.2	476.7	477.8	478.8	480.2	481.3	482.7	483.7	486.0
246	468.4	469.5	470.5	471.5	472.3	474.5	477.2	479.1	480.6	481.8	482.7	484.2	485.2	486.7	487.6	490.0
248	472.2	473.3	474.4	475.3	476.2	478.4	481.0	483.0	484.5	485.7	486.6	488.1	489.2	490.6	491.6	494.0
250	476.0	477.1	478.2	479.1	480.0	482.2	484.9	486.9	488.4	489.6	490.6	492.0	493.1	494.6	495.6	498.0
	1.904	*1.910*	*1.912*	*1.918*	*1.920*	*1.930*	*1.942*	*1.948*	*1.954*	*1.960*	*1.962*	*1.970*	*1.974*	*1.978*	*1.982*	*2.000*
300	571.2	572.6	573.8	575.0	576.0	578.7	582.0	584.3	586.1	587.6	588.7	590.5	591.8	593.5	594.7	598.0
	1.904	*1.908*	*1.914*	*1.916*	*1.920*	*1.928*	*1.940*	*1.950*	*1.956*	*1.958*	*1.964*	*1.968*	*1.972*	*1.980*	*1.982*	*2.000*
350	666.4	668.0	669.5	670.8	672.0	675.1	679.0	681.8	683.9	685.5	686.9	688.9	690.4	692.5	693.8	698.0
	1.904	*1.908*	*1.912*	*1.916*	*1.920*	*1.930*	*1.940*	*1.948*	*1.956*	*1.960*	*1.964*	*1.970*	*1.974*	*1.978*	*1.982*	*2.000*
400	761.6	763.4	765.1	766.6	768.0	771.6	776.0	779.2	781.7	783.5	785.1	787.4	789.1	791.4	792.9	798.0
	1.904	*1.910*	*1.912*	*1.918*	*1.920*	*1.928*	*1.940*	*1.948*	*1.954*	*1.960*	*1.962*	*1.968*	*1.972*	*1.978*	*1.982*	*2.000*
450	856.8	858.9	860.7	862.5	864.0	868.0	873.0	876.6	879.4	881.5	883.2	885.8	887.7	890.3	892.0	898.0
	1.904	*1.908*	*1.914*	*1.916*	*1.920*	*1.930*	*1.940*	*1.948*	*1.954*	*1.960*	*1.964*	*1.970*	*1.974*	*1.980*	*1.984*	*2.000*
500	952.0	954.3	956.4	958.3	960.0	964.5	970.0	974.0	977.1	979.5	981.4	984.3	986.4	989.3	991.2	998.0
	1.900	*1.907*	*1.916*	*1.917*	*1.920*	*1.925*	*1.940*	*1.950*	*1.949*	*1.955*	*1.966*	*1.967*	*1.976*	*1.977*	*1.978*	*2.000*
600	1142.	1145.	1148.	1150.	1152.	1157.	1164.	1169.	1172.	1175.	1178.	1181.	1184.	1187.	1189.	1198.
	1.91	*1.91*	*1.91*	*1.92*	*1.92*	*1.93*	*1.94*	*1.95*	*1.96*	*1.96*	*1.96*	*1.97*	*1.97*	*1.98*	*1.99*	*2.00*
700	1333.	1336.	1339.	1342.	1344.	1350.	1358.	1364.	1368.	1371.	1374.	1378.	1381.	1385.	1388.	1398.
	1.90	*1.91*	*1.91*	*1.91*	*1.92*	*1.93*	*1.94*	*1.94*	*1.95*	*1.96*	*1.96*	*1.97*	*1.97*	*1.98*	*1.98*	*2.00*
800	1523.	1527.	1530.	1533.	1536.	1543.	1552.	1558.	1563.	1567.	1570.	1575.	1578.	1583.	1586.	1598.
	1.91	*1.91*	*1.91*	*1.92*	*1.92*	*1.93*	*1.94*	*1.95*	*1.96*	*1.96*	*1.97*	*1.97*	*1.98*	*1.98*	*1.98*	*2.00*
900	1714.	1718.	1721.	1725.	1728.	1736.	1746.	1753.	1759.	1763.	1767.	1772.	1776.	1781.	1784.	1798.
	1.90	*1.91*	*1.92*	*1.92*	*1.92*	*1.93*	*1.94*	*1.95*	*1.95*	*1.96*	*1.96*	*1.97*	*1.97*	*1.98*	*1.99*	*2.00*
1000	1904.	1909.	1913.	1917.	1920.	1929.	1940.	1948.	1954.	1959.	1963.	1969.	1973.	1979.	1983.	1998.
	1.90	*1.90*	*1.91*	*1.91*	*1.92*	*1.93*	*1.94*	*1.95*	*1.96*	*1.96*	*1.96*	*1.97*	*1.97*	*1.98*	*1.98*	*2.00*
1100	2094.	2099.	2104.	2108.	2112.	2122.	2134.	2143.	2150.	2155.	2159.	2166.	2170.	2177.	2181.	2198.
	1.904	*1.909*	*1.913*	*1.917*	*1.920*	*1.929*	*1.940*	*1.948*	*1.954*	*1.959*	*1.963*	*1.969*	*1.973*	*1.979*	*1.983*	
N	18	19	20	21	22	25	30	35	40	45	50	60	70	90	110	k=N
	k															

3 Tabelas para sistemas de perda com um número finito de fontes de tráfego e acessibilidade plena

3.1 Generalidades

Os dados de dimensionamento que seguem se referem a sistemas de perda de acessibilidade plena e tempos de ocupação distribuídos de forma exponencial. Sendo o tráfego oferecido originado por um número finito M de fontes de tráfego independentes entre si e de mesma intensidade de chamadas. Um tráfego oferecido desse tipo tem a característica de que um número crescente de chamadas já existentes diminui cada vez mais a probabilidade de chegada de novas chamadas.

Para a faixa de interesse prático, as tabelas fornecem, para N de 1 a 20 troncos de saída, a carga oferecida admissível A em função da perda B e do número M de fontes de tráfego (com $M > N$). Como caso limite são apresentados também os valores de oferta para um número infinito de fontes de tráfego ($M = \infty$), os quais coincidem com os valores correspondentes das tabelas de perda de acessibilidade plena da Sec. 2.5.

No caso de um número limitado de fontes de tráfego ($M < \infty$), os valores correspondentes à carga oferecida A, com os valores de perda B e número de saídas N constantes, são tanto maiores, quanto menor for o número M de fontes de tráfego. Então, teremos sempre diferenças visíveis entre os valores da carga oferecida A, para um número finito de fontes de tráfego, e os valores da carga oferecida correspondentes para um número infinito de fontes de tráfego, sempre que a quantidade de fontes de tráfego não é muito maior do que a quantidade de troncos de saída. Sendo a quantidade de fontes de tráfego igual à quantidade de troncos de saída ($M = N$), então o tráfego será processado sem perdas.

Na Fig. 3.1 é mostrada, para perdas de $B = 0{,}1\,\%$, a relação entre a carga oferecida admissível A, o número de troncos de saída e o número M de fontes de tráfego.

Antes da utilização prática dessas tabelas, para o dimensionamento de grupos de troncos de saída aos quais o tráfego é oferecido através de um número limitado de troncos de entrada, deve-se comprovar sempre se esses troncos de entrada podem ser considerados como fontes de tráfego reais que iniciam suas chamadas independentes entre si. Isso normalmente acontece nos casos de dimensionamento de estágios pré-seletores, quando os troncos de entrada são linhas de assinantes. Geralmente, esse não será o caso quando se trata de troncos de entrada que sejam por sua vez troncos de saída de uma central de comutação anterior. Por estarem tais troncos de entrada ligados, na maioria dos casos, direta ou indiretamente a um número muito mais elevado de fontes de tráfego (assinantes), a probabilidade de que cheguem novas chamadas não diminuirá, tão acentuadamente, com o aumento do número de ocupações já existentes, como seria de se esperar, pelas hipóteses teóricas das tabelas referentes a um número finito de fontes de tráfego, da Sec. 3.4. Desse modo, ao empregarmos a tabela, obteríamos para o dimensionamento dos troncos de saída um número muito pequeno. Por essa razão e por motivo de segurança são tomadas como base, nesses casos, as tabelas para um número infinito de fontes de tráfego (Sec. 2.5).

Os valores das tabelas da Sec. 3.4 se baseiam nas investigações feitas por T. Engset [8]. A suposição de que o tráfego oferecido seja produzido por um número finito de fontes de tráfego independentes entre si e com a mesma intensidade de chamadas, corresponde no modelo da teoria do tráfego à hipótese de que a probabilidade de chegar uma nova chamada é proporcional (com o fator de proporcionalidade λ) ao número de fontes de tráfego que estejam livres no instante considerado. A probabilidade de chegada de uma nova chamada para esse modelo de tráfego depende então do estado de ocupação dos grupos de troncos de saída. O resultado é que o número médio de chamadas oferecidas durante um período de tempo considerado, depende da carga do grupo de troncos de saída, e, portanto, do número de saídas perante um valor constante de intensidade de chamadas das fontes de tráfego, ou seja, com um valor constante do fator de proporcionalidade λ. Segundo a definição de carga oferecida, explicada na Sec. 1.2 (como sendo o produto do número médio de chamadas oferecidas por unidade de tempo, pelo tempo de ocupações das chamadas processadas), teremos, para altas perdas B, valores da carga oferecida admissível A que são maiores numericamente do que o número M de fontes de tráfego. As relações matemáticas correspondentes estão contidas na seção seguinte.

3.2 Resumo de fórmulas

Os símbolos empregados vem relacionados no Cap. 6. A hipótese formulada anteriormente de que a probabilidade de chegar uma nova chamada é proporcional ao número de fontes de tráfego que estejam livres no instante considerado, pode ser formulada matematicamente:

Para a probabilidade w de que chegue uma nova chamada no pequeno intervalo de tempo compreendido entre os instantes τ e $\tau + \Delta\tau$ e já existindo n chamadas, será então

$$w = \lambda(M-n)\,\Delta\tau + o(\Delta\tau) \tag{3.1}$$

em que $o(\Delta\tau)$ é uma função de $\Delta\tau$, que satisfaz a condição.

$$\lim_{\Delta\tau\to 0} \frac{o(\Delta\tau)}{\Delta\tau} = 0.$$

Para intervalos de tempo suficientemente pequenos, teremos com isso

$$w \approx \lambda(M-n)\,\Delta\tau. \tag{3.1a}$$

Nesse caso, o fator de proporcionalidade λ é uma medida para a intensidade de chamadas das fontes de tráfego.

Essa suposição tem como resultado que o número de troncos de saída ocupados simultaneamente satisfaz à distribuição de Engset [8] [13] ou seja:

Para a probabilidade P_n de que num instante considerado existam exatamente n chamadas simultâneas, a equação é:

$$P_n = \frac{\binom{M}{n}(\lambda t_m)^n}{\sum_{i=0}^{N}\binom{M}{i}(\lambda t_m)^i}, \qquad n = 0, 1, \ldots, N. \tag{3.2}$$

Quando há N saídas, as M fontes de tráfego geram a carga oferecida

$$A = c_A t_m = \frac{M\lambda t_m \sum_{n=0}^{N}\binom{M-1}{n}(\lambda t_m)^n}{\sum_{i=0}^{N}\binom{M}{i}(\lambda t_m)^i}, \tag{3.3}$$

a qual será processada com a seguinte perda

$$B = \frac{\binom{M-1}{N}(\lambda t_m)^N}{\sum_{i=0}^{N}\binom{M-1}{i}(\lambda t_m)^i}. \tag{3.4}$$

Em ambas as fórmulas (3.3) e (3.4), usa-se uma representação paramétrica (com o parâmetro auxiliar λt_m) para mostrar como a perda B depende da carga oferecida A.

Para a avaliação numérica são muito utilizadas as fórmulas (3.5) e (3.6) que a seguir são definidas.
Sendo conhecida a perda B_{N-1} para $N-1$ troncos de saída, com M fontes de tráfego e certos valores de λt_m, então obtemos a perda B_N para N saídas, por meio da fórmula de recorrência

$$B_N = \frac{(M-N)\lambda t_m B_{N-1}}{N + (M-N)\lambda t_m B_{N-1}}. \tag{3.5}$$

A carga oferecida correspondente A para N saídas pode ser calculada então com a fórmula (3.3) simplificada da seguinte forma

$$A = \frac{M\lambda t_m}{1 + \lambda t_m(1-B_N)}, \tag{3.3a}$$

fórmula essa mais simples que (3.3).
Com valor fixo de λt_m, a carga oferecida A se encontra, portanto, entre o valor máximo

$$A = M\lambda t_m \quad \text{para} \quad N = 0,$$

e o valor mínimo

$$A = \frac{M\lambda t_m}{1 + \lambda t_m} \quad \text{para} \quad N = M.$$

3.3 Exemplos numéricos

Exemplo 1

Dados: Tem-se um concentrador de troncos distante da central, com 20 assinantes (fontes de tráfego) e um tráfego interno desprezível,
Acessibilidade plena
Carga oferecida: $A = 4{,}4$ Erl
Perda admissível: $B = 1\,\%$

A determinar: o número N de troncos de saída.

As tabelas da Sec. 3.4 mostram que para $M = 20$ fontes de tráfego com a perda $B = 1\,\%$ e a carga oferecida $A = 4{,}4$ Erl resulta um número de troncos $N = 9$ saídas.

Observação: Se pelo contrário, partimos de um número infinito de fontes de tráfego ($M = \infty$), mantidas as demais condições, teríamos $N = 10$ troncos de saída (Veja as tabelas da Sec. 3.4 ou também as das Secs. 2.5 e 2.6)

Exemplo 2

Partindo-se dos mesmos dados do exemplo 1, porém com a carga oferecida $A = 0{,}8$ Erl. Determinar o número N de troncos de saída. As tabelas na Sec. 3.4 mostram que, para $M = 20$ fontes de tráfego, perda $B = 1\,\%$ e com a oferta $A = 0{,}8$ Erl, o número N será de 4 troncos de saída.

Observação: Se nesse exemplo 2 também partirmos de um número infinito de fontes de tráfego ($M = \infty$), utilizamos igualmente 4 saídas. Quando se determina o número de troncos de saída, por interpolação, resulta que para $M = 20$, o número N será igual a 3,7 troncos de saída; e para $M = \infty$, $N \approx 3{,}9$.
Comparado com o exemplo 1, a pequena diferença entre o número de troncos para $M = 20$ e com $M = \infty$, se deve à relação muito mais elevada entre o número de fontes de tráfego e o número de saídas.

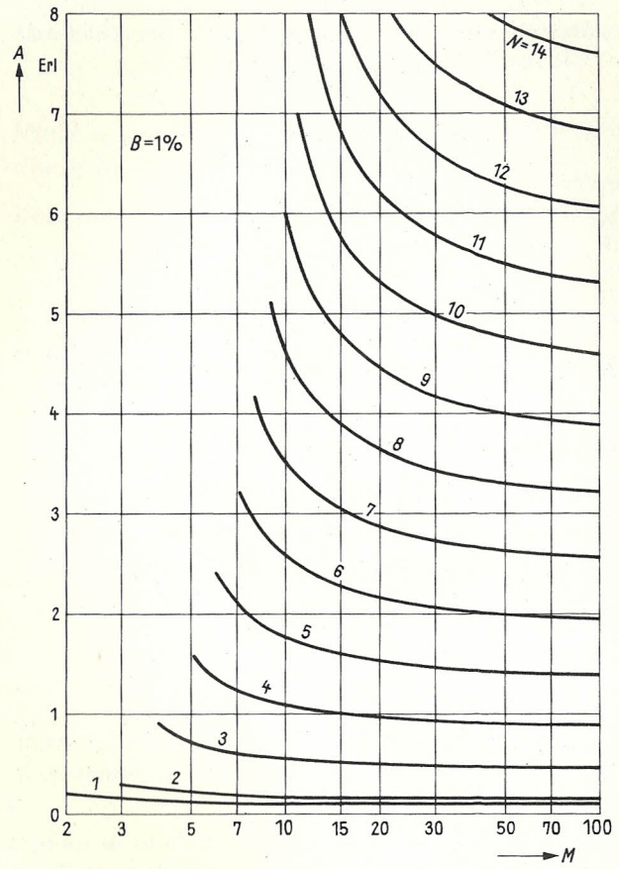

Figura 3.1a

Número finito de fontes de tráfego, acessibilidade plena:
Carga oferecida A em função do número M de fontes de tráfego para diferentes números de troncos de saída N com a perda $B = 1\,\%$

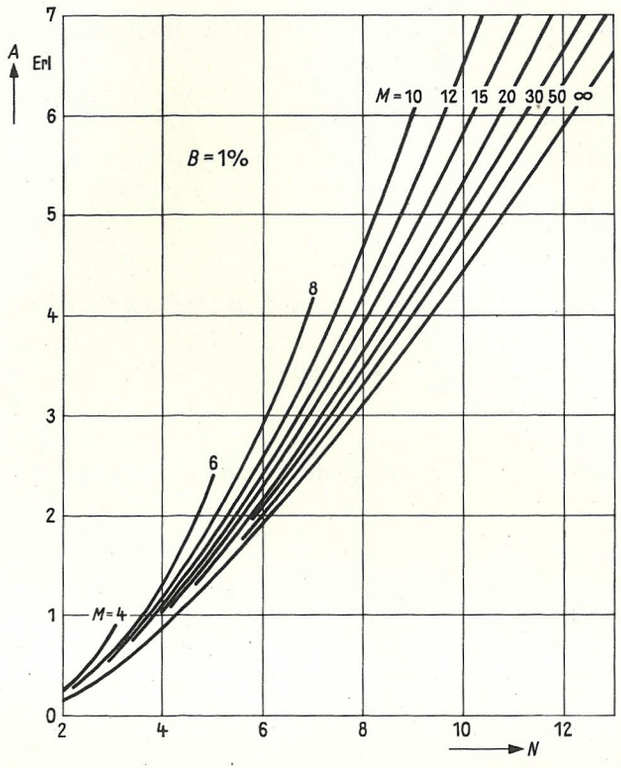

Figura 3.1b

Número finito de fontes de tráfego, acessibilidade plena:
Carga oferecida A em função do número de troncos de saída N para diferentes números M de fontes de tráfego com a perda $B = 1\,\%$

3.4 Tabelas de dimensionamento para sistemas de perda

Número finito de fontes de tráfego
Acessibilidade plena

Para:

B = 0,01 %, 0,02 %, 0,03 %, 0,05 %,
0,1 %, 0,2 %, 0,3 %, 0,4 %, 0,5 %, 0,6 %, 0,7 %, 0,8 %, 0,9 %,
1,0 %, 1,2 %, 1,5 %, 2 %, 3 %, 5 %, 7 %,
10 %, 15 %, 20 %, 30 %, 40 %, 50 %,

N = 1 a 20 troncos de saída.

Para indicações práticas referentes à utilização destas tabelas veja a Sec. 3.1.

Significado:

A Carga oferecida em Erl
B Perda
M Número de fontes de tráfego
N Número de troncos de saída

N	M	B												M	N
		0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	
1	2	.0002	.0004	.0006	.0010	.0020	.0040	.0060	.0080	.0100	.0120	.0140	.0160	.0180	
	3	.0002	.0003	.0005	.0008	.0015	.0030	.0045	.0060	.0075	.0090	.0105	.0120	.0136	
	4	.0001	.0003	.0004	.0007	.0013	.0027	.0040	.0053	.0067	.0080	.0094	.0107	.0121	
	5	.0001	.0003	.0004	.0006	.0013	.0025	.0038	.0050	.0063	.0075	.0088	.0101	.0113	
	6	.0001	.0002	.0004	.0006	.0012	.0024	.0036	.0048	.0060	.0072	.0084	.0097	.0109	
	7	.0001	.0002	.0004	.0006	.0012	.0023	.0035	.0047	.0059	.0070	.0082	.0094	.0106	
	8	.0001	.0002	.0003	.0006	.0011	.0023	.0034	.0046	.0057	.0069	.0080	.0092	.0104	
	9	.0001	.0002	.0003	.0006	.0011	.0023	.0034	.0045	.0056	.0068	.0079	.0091	.0102	
	10	.0001	.0002	.0003	.0006	.0011	.0022	.0033	.0045	.0056	.0067	.0078	.0090	.0101	
	15	.0001	.0002	.0003	.0005	.0011	.0021	.0032	.0043	.0054	.0065	.0075	.0086	.0097	
	20	.0001	.0002	.0003	.0005	.0011	.0021	.0032	.0042	.0053	.0064	.0074	.0085	.0096	
	∞	.0001	.0002	.0003	.0005	.0010	.0020	.0030	.0040	.0050	.0060	.0070	.0081	.0091	
2	3	.0300	.0424	.0520	.0671	.0949	.134	.164	.190	.212	.232	.251	.269	.285	
	4	.0232	.0328	.0402	.0520	.0737	.105	.129	.149	.167	.183	.198	.212	.226	
	5	.0205	.0290	.0356	.0461	.0654	.0930	.114	.133	.149	.163	.177	.190	.202	
	6	.0191	.0270	.0331	.0429	.0609	.0867	.107	.124	.139	.153	.166	.178	.189	
	7	.0182	.0257	.0316	.0409	.0581	.0828	.102	.118	.133	.146	.158	.170	.181	
	8	.0176	.0249	.0305	.0395	.0562	.0801	.0986	.114	.129	.141	.153	.164	.175	
	9	.0171	.0242	.0298	.0385	.0548	.0781	.0962	.112	.125	.138	.150	.161	.171	
	10	.0168	.0238	.0292	.0378	.0537	.0766	.0944	.110	.123	.135	.147	.158	.168	
	15	.0158	.0224	.0275	.0357	.0507	.0724	.0893	.104	.117	.128	.139	.149	.159	
	20	.0154	.0218	.0268	.0347	.0494	.0705	.0869	.101	.114	.125	.136	.146	.155	
	40	.0148	.0210	.0258	.0334	.0475	.0678	.0837	.0972	.109	.120	.131	.140	.149	
	∞	.0142	.0202	.0248	.0321	.0458	.0653	.0806	.0937	.105	.116	.126	.135	.144	
3	4	.186	.234	.268	.317	.400	.504	.577	.635	.685	.728	.766	.801	.834	
	5	.148	.187	.214	.254	.322	.408	.470	.519	.561	.598	.631	.661	.689	
	6	.131	.166	.190	.227	.288	.366	.422	.467	.505	.539	.570	.598	.624	
	7	.122	.154	.177	.211	.268	.342	.394	.437	.473	.505	.534	.561	.586	
	8	.116	.147	.168	.201	.255	.326	.376	.417	.452	.483	.511	.537	.561	
	9	.111	.141	.162	.194	.246	.314	.363	.403	.437	.467	.495	.520	.543	
	10	.108	.137	.158	.188	.240	.306	.354	.393	.426	.456	.482	.507	.530	
	15	.0999	.127	.146	.174	.222	.284	.329	.365	.396	.424	.449	.472	.494	
	20	.0963	.122	.140	.168	.214	.274	.317	.353	.383	.410	.435	.457	.478	
	30	.0929	.118	.136	.162	.207	.265	.307	.341	.371	.397	.421	.443	.464	
	60	.0897	.114	.131	.157	.200	.257	.297	.331	.360	.385	.408	.430	.450	
	∞	.0868	.110	.127	.152	.194	.249	.289	.321	.349	.374	.397	.418	.437	
4	5	.500	.595	.658	.748	.889	1.06	1.17	1.26	1.33	1.39	1.45	1.50	1.54	
	6	.408	.487	.541	.617	.737	.883	.982	1.06	1.12	1.18	1.23	1.28	1.32	
	7	.365	.437	.485	.554	.665	.799	.891	.964	1.02	1.08	1.12	1.17	1.21	
	8	.340	.407	.452	.517	.621	.749	.836	.905	.963	1.01	1.06	1.10	1.14	
	9	.323	.387	.430	.492	.592	.715	.799	.866	.922	.971	1.01	1.05	1.09	
	10	.310	.372	.414	.474	.571	.690	.772	.838	.892	.940	.983	1.02	1.06	
	15	.280	.336	.374	.429	.518	.628	.704	.764	.816	.860	.901	.937	.971	
	20	.267	.320	.357	.410	.495	.601	.675	.733	.783	.826	.865	.901	.934	
	30	.255	.306	.342	.392	.475	.577	.648	.705	.753	.796	.833	.868	.900	
	40	.249	.300	.335	.384	.465	.566	.636	.692	.739	.781	.819	.853	.885	
	80	.242	.291	.325	.373	.452	.550	.618	.673	.720	.761	.797	.831	.862	
	∞	.235	.282	.315	.362	.439	.535	.602	.656	.701	.741	.777	.810	.841	
N	M	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	M	N
		B														

B												M	N
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %		
.0200	.0240	.0300	.0400	.0601	.100	.141	.202	.307	.417	.659	.952	1.33	2	1
.0151	.0181	.0227	.0303	.0457	.0770	.109	.159	.246	.341	.559	.833	1.20	3	
.0134	.0161	.0202	.0270	.0408	.0690	.0981	.143	.224	.312	.519	.784	1.14	4	
.0126	.0151	.0190	.0254	.0384	.0650	.0925	.136	.213	.298	.498	.758	1.11	5	
.0121	.0145	.0182	.0244	.0369	.0625	.0891	.131	.206	.288	.485	.741	1.09	6	
.0118	.0141	.0177	.0237	.0359	.0609	.0868	.128	.201	.282	.476	.729	1.08	7	
.0115	.0139	.0174	.0233	.0352	.0597	.0852	.125	.197	.278	.470	.721	1.07	8	
.0113	.0136	.0171	.0229	.0347	.0588	.0839	.123	.195	.274	.465	.714	1.06	9	
.0112	.0135	.0169	.0226	.0343	.0582	.0830	.122	.193	.272	.461	.709	1.05	10	
.0108	.0130	.0163	.0218	.0331	.0562	.0802	.118	.187	.264	.450	.694	1.03	15	
.0106	.0128	.0160	.0215	.0325	.0553	.0789	.116	.184	.260	.444	.687	1.03	20	
.0101	.0121	.0152	.0204	.0309	.0526	.0753	.111	.176	.250	.429	.667	1.00	∞	
.300	.329	.368	.425	.522	.678	.809	.980	1.23	1.47	1.97	2.54	3.28	3	2
.238	.262	.294	.342	.424	.560	.676	.832	1.07	1.30	1.78	2.36	3.10	4	
.213	.235	.264	.308	.383	.510	.619	.767	.997	1.22	1.70	2.27	3.01	5	
.200	.220	.248	.289	.361	.482	.587	.731	.955	1.18	1.65	2.21	2.95	6	
.191	.210	.237	.277	.347	.464	.566	.707	.928	1.15	1.62	2.18	2.92	7	
.185	.204	.230	.269	.337	.451	.552	.690	.908	1.13	1.59	2.15	2.89	8	
.181	.199	.225	.263	.329	.442	.541	.678	.894	1.11	1.57	2.13	2.87	9	
.177	.196	.221	.258	.324	.435	.533	.669	.883	1.10	1.56	2.12	2.86	10	
.168	.186	.209	.245	.308	.415	.510	.642	.852	1.06	1.52	2.08	2.81	15	
.164	.181	.204	.239	.301	.406	.500	.630	.837	1.05	1.50	2.06	2.79	20	
.158	.174	.197	.231	.291	.393	.485	.612	.816	1.02	1.47	2.03	2.76	40	
.153	.168	.190	.223	.282	.381	.470	.595	.796	1.00	1.45	2.00	2.73	∞	
.864	.918	.990	1.09	1.25	1.50	1.70	1.95	2.31	2.65	3.35	4.18	5.26	4	3
.715	.763	.827	.918	1.07	1.30	1.48	1.72	2.08	2.42	3.13	3.97	5.06	5	
.648	.693	.752	.837	.977	1.20	1.38	1.62	1.97	2.31	3.02	3.86	4.95	6	
.609	.651	.708	.790	.925	1.14	1.32	1.55	1.90	2.24	2.95	3.79	4.89	7	
.583	.624	.679	.759	.891	1.10	1.27	1.51	1.85	2.19	2.90	3.74	4.84	8	
.565	.605	.659	.737	.866	1.07	1.24	1.47	1.82	2.16	2.86	3.71	4.81	9	
.551	.591	.643	.720	.847	1.05	1.22	1.45	1.79	2.13	2.84	3.68	4.79	10	
.514	.552	.602	.675	.797	.994	1.16	1.38	1.72	2.06	2.76	3.61	4.71	15	
.498	.535	.584	.655	.775	.968	1.13	1.35	1.69	2.02	2.73	3.57	4.68	20	
.483	.518	.566	.636	.753	.944	1.11	1.32	1.66	1.99	2.70	3.54	4.65	30	
.469	.504	.550	.619	.734	.921	1.08	1.30	1.63	1.96	2.66	3.51	4.62	60	
.455	.489	.535	.602	.715	.899	1.06	1.27	1.60	1.93	2.63	3.48	4.59	∞	
1.59	1.66	1.76	1.89	2.11	2.42	2.67	2.98	3.43	3.86	4.76	5.83	7.25	5	4
1.36	1.42	1.52	1.64	1.84	2.15	2.39	2.71	3.16	3.60	4.51	5.60	7.04	6	
1.24	1.31	1.39	1.52	1.71	2.01	2.25	2.56	3.02	3.46	4.38	5.48	6.92	7	
1.17	1.24	1.32	1.44	1.63	1.92	2.16	2.47	2.93	3.37	4.30	5.40	6.85	8	
1.13	1.19	1.27	1.39	1.57	1.86	2.10	2.41	2.87	3.31	4.24	5.35	6.80	9	
1.09	1.15	1.23	1.35	1.53	1.82	2.06	2.36	2.82	3.27	4.20	5.31	6.76	10	
1.00	1.06	1.14	1.25	1.42	1.71	1.94	2.24	2.70	3.14	4.08	5.20	6.66	15	
.965	1.02	1.10	1.20	1.38	1.65	1.88	2.19	2.65	3.09	4.03	5.15	6.62	20	
.930	.985	1.06	1.16	1.34	1.61	1.84	2.14	2.59	3.04	3.98	5.10	6.58	30	
.914	.968	1.04	1.14	1.32	1.59	1.81	2.11	2.57	3.01	3.96	5.08	6.56	40	
.891	.944	1.02	1.12	1.29	1.55	1.78	2.08	2.53	2.98	3.92	5.05	6.53	80	
.869	.922	.992	1.09	1.26	1.52	1.75	2.05	2.50	2.95	3.89	5.02	6.50	∞	
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	M	N
B														

N	M	B 0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%
5	6	.951	1.09	1.18	1.31	1.51	1.73	1.88	1.99	2.08	2.16	2.23	2.29	2.35
	7	.794	.916	.996	1.11	1.28	1.48	1.61	1.72	1.80	1.87	1.94	2.00	2.05
	8	.716	.828	.901	1.00	1.16	1.35	1.48	1.58	1.66	1.73	1.79	1.84	1.89
	9	.668	.773	.843	.940	1.09	1.27	1.39	1.49	1.56	1.63	1.69	1.75	1.79
	10	.635	.736	.802	.896	1.04	1.22	1.33	1.43	1.50	1.57	1.63	1.68	1.73
	12	.592	.687	.750	.839	.979	1.14	1.26	1.35	1.42	1.48	1.54	1.59	1.64
	15	.556	.646	.706	.791	.924	1.08	1.19	1.28	1.35	1.41	1.46	1.51	1.56
	20	.525	.611	.668	.748	.876	1.03	1.13	1.22	1.28	1.34	1.40	1.44	1.49
	30	.498	.580	.634	.711	.834	.981	1.08	1.16	1.23	1.29	1.34	1.38	1.43
	50	.478	.557	.610	.685	.803	.947	1.04	1.12	1.19	1.24	1.29	1.34	1.38
	100	.465	.542	.593	.666	.782	.922	1.02	1.09	1.16	1.21	1.26	1.31	1.35
	∞	.452	.527	.577	.649	.762	.900	.994	1.07	1.13	1.19	1.24	1.28	1.32
6	7	1.51	1.69	1.81	1.97	2.21	2.49	2.66	2.79	2.90	2.99	3.07	3.14	3.21
	8	1.28	1.45	1.55	1.70	1.91	2.17	2.33	2.45	2.55	2.64	2.72	2.78	2.85
	9	1.17	1.32	1.41	1.55	1.76	1.99	2.15	2.27	2.37	2.45	2.52	2.59	2.65
	10	1.09	1.23	1.33	1.46	1.65	1.88	2.03	2.15	2.25	2.33	2.40	2.47	2.52
	11	1.04	1.18	1.27	1.39	1.58	1.81	1.95	2.07	2.16	2.24	2.31	2.38	2.43
	12	1.00	1.13	1.22	1.34	1.53	1.75	1.89	2.00	2.10	2.17	2.25	2.31	2.37
	15	.926	1.05	1.13	1.25	1.43	1.64	1.77	1.88	1.97	2.05	2.12	2.18	2.23
	20	.865	.984	1.06	1.17	1.34	1.54	1.67	1.78	1.87	1.94	2.01	2.07	2.12
	30	.813	.926	1.00	1.10	1.27	1.46	1.59	1.69	1.77	1.85	1.91	1.97	2.02
	50	.776	.885	.957	1.06	1.22	1.40	1.53	1.63	1.71	1.78	1.84	1.90	1.95
	100	.751	.858	.928	1.03	1.18	1.36	1.49	1.58	1.66	1.73	1.80	1.85	1.91
	∞	.728	.832	.900	.996	1.15	1.33	1.45	1.54	1.62	1.69	1.75	1.81	1.86
7	8	2.15	2.37	2.51	2.70	2.98	3.30	3.49	3.64	3.76	3.86	3.95	4.03	4.10
	9	1.85	2.06	2.18	2.36	2.62	2.91	3.10	3.24	3.36	3.46	3.54	3.62	3.69
	10	1.70	1.88	2.01	2.17	2.42	2.70	2.88	3.02	3.13	3.23	3.32	3.39	3.46
	11	1.59	1.77	1.89	2.05	2.29	2.56	2.74	2.87	2.99	3.08	3.16	3.24	3.31
	12	1.52	1.69	1.81	1.96	2.19	2.46	2.63	2.77	2.88	2.97	3.05	3.13	3.20
	13	1.46	1.63	1.74	1.89	2.12	2.38	2.56	2.69	2.80	2.89	2.97	3.05	3.11
	15	1.39	1.55	1.65	1.80	2.02	2.27	2.44	2.57	2.68	2.77	2.85	2.92	2.99
	20	1.28	1.43	1.53	1.67	1.88	2.13	2.29	2.41	2.52	2.61	2.68	2.76	2.82
	30	1.19	1.34	1.43	1.56	1.76	2.00	2.16	2.28	2.38	2.47	2.54	2.61	2.68
	50	1.13	1.27	1.36	1.49	1.68	1.91	2.07	2.18	2.28	2.37	2.45	2.51	2.58
	100	1.09	1.23	1.32	1.44	1.63	1.85	2.00	2.12	2.22	2.30	2.38	2.45	2.51
	∞	1.05	1.19	1.27	1.39	1.58	1.80	1.95	2.06	2.16	2.24	2.31	2.38	2.44
8	9	2.85	3.10	3.27	3.48	3.80	4.14	4.36	4.52	4.65	4.76	4.86	4.94	5.02
	10	2.49	2.73	2.88	3.08	3.37	3.70	3.92	4.07	4.20	4.31	4.41	4.49	4.57
	11	2.29	2.52	2.66	2.85	3.14	3.46	3.66	3.82	3.94	4.05	4.15	4.23	4.31
	12	2.16	2.37	2.51	2.70	2.97	3.29	3.49	3.64	3.77	3.88	3.97	4.05	4.13
	13	2.06	2.27	2.41	2.59	2.86	3.17	3.37	3.52	3.64	3.75	3.84	3.92	4.00
	15	1.93	2.13	2.26	2.43	2.70	3.00	3.19	3.34	3.46	3.57	3.66	3.74	3.82
	17	1.85	2.04	2.17	2.34	2.59	2.89	3.08	3.23	3.35	3.45	3.54	3.62	3.70
	20	1.76	1.95	2.07	2.24	2.49	2.77	2.96	3.11	3.23	3.33	3.42	3.50	3.58
	30	1.63	1.80	1.92	2.08	2.32	2.59	2.78	2.92	3.03	3.13	3.22	3.30	3.38
	50	1.54	1.71	1.82	1.97	2.20	2.47	2.65	2.79	2.90	3.00	3.09	3.17	3.24
	100	1.48	1.64	1.75	1.90	2.12	2.39	2.56	2.70	2.81	2.91	3.00	3.08	3.15
	∞	1.42	1.58	1.69	1.83	2.05	2.31	2.48	2.62	2.73	2.83	2.91	2.99	3.06
N	M	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%

B

M	N	B 1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %
6	5	2.40	2.49	2.61	2.77	3.02	3.39	3.68	4.04	4.58	5.09	6.17	7.49	9.25
7		2.10	2.18	2.30	2.45	2.70	3.07	3.36	3.73	4.28	4.80	5.91	7.25	9.03
8		1.94	2.02	2.13	2.29	2.53	2.90	3.19	3.56	4.12	4.65	5.77	7.12	8.91
9		1.84	1.92	2.03	2.18	2.42	2.78	3.08	3.45	4.01	4.55	5.68	7.04	8.83
10		1.77	1.85	1.96	2.11	2.34	2.71	3.00	3.37	3.94	4.48	5.61	6.98	8.77
12		1.68	1.76	1.86	2.01	2.24	2.60	2.89	3.27	3.84	4.38	5.52	6.90	8.70
15		1.60	1.68	1.78	1.92	2.15	2.51	2.80	3.18	3.74	4.29	5.44	6.82	8.64
20		1.53	1.61	1.70	1.84	2.07	2.42	2.71	3.09	3.66	4.21	5.37	6.76	8.58
30		1.47	1.54	1.64	1.78	2.00	2.35	2.64	3.02	3.59	4.14	5.31	6.70	8.53
50		1.42	1.49	1.59	1.73	1.95	2.29	2.58	2.96	3.53	4.09	5.26	6.66	8.49
100		1.39	1.46	1.56	1.69	1.91	2.26	2.54	2.92	3.49	4.05	5.22	6.63	8.46
∞		1.36	1.43	1.52	1.66	1.88	2.22	2.50	2.88	3.45	4.01	5.19	6.60	8.44
7	6	3.26	3.37	3.50	3.69	3.97	4.38	4.71	5.12	5.73	6.32	7.59	9.15	11.2
8		2.90	3.01	3.14	3.32	3.60	4.02	4.36	4.78	5.41	6.02	7.32	8.90	11.0
9		2.71	2.81	2.94	3.12	3.40	3.82	4.16	4.59	5.24	5.85	7.17	8.77	10.9
10		2.58	2.68	2.81	2.98	3.27	3.69	4.03	4.47	5.12	5.74	7.07	8.68	10.8
11		2.49	2.59	2.71	2.89	3.17	3.60	3.94	4.38	5.03	5.66	7.00	8.61	10.8
12		2.42	2.52	2.64	2.82	3.10	3.52	3.86	4.31	4.97	5.60	6.94	8.57	10.7
15		2.29	2.38	2.51	2.68	2.96	3.38	3.72	4.17	4.84	5.48	6.84	8.47	10.6
20		2.17	2.27	2.39	2.56	2.83	3.26	3.60	4.05	4.72	5.37	6.74	8.39	10.6
30		2.07	2.17	2.28	2.45	2.73	3.15	3.49	3.94	4.62	5.28	6.66	8.32	10.5
50		2.00	2.09	2.21	2.38	2.65	3.07	3.41	3.87	4.55	5.21	6.60	8.26	10.4
100		1.96	2.04	2.16	2.33	2.59	3.01	3.36	3.81	4.49	5.16	6.55	8.23	10.4
∞		1.91	2.00	2.11	2.28	2.54	2.96	3.30	3.76	4.44	5.11	6.51	8.19	10.4
8	7	4.17	4.28	4.43	4.63	4.94	5.39	5.75	6.20	6.89	7.56	9.01	10.8	13.2
9		3.75	3.87	4.02	4.22	4.53	5.00	5.37	5.85	6.56	7.25	8.74	10.6	13.0
10		3.52	3.64	3.78	3.99	4.31	4.78	5.16	5.64	6.37	7.07	8.58	10.4	12.9
11		3.37	3.48	3.63	3.83	4.15	4.63	5.01	5.50	6.24	6.95	8.47	10.3	12.8
12		3.26	3.37	3.52	3.72	4.04	4.52	4.90	5.40	6.14	6.86	8.40	10.3	12.7
13		3.17	3.29	3.43	3.63	3.95	4.43	4.82	5.32	6.07	6.80	8.34	10.2	12.7
15		3.05	3.16	3.31	3.51	3.83	4.31	4.70	5.21	5.97	6.70	8.25	10.1	12.6
20		2.88	2.99	3.13	3.33	3.65	4.14	4.53	5.05	5.81	6.56	8.13	10.0	12.5
30		2.74	2.84	2.98	3.18	3.50	3.99	4.39	4.90	5.68	6.44	8.03	9.94	12.5
50		2.64	2.74	2.88	3.08	3.39	3.88	4.28	4.80	5.59	6.35	7.96	9.88	12.4
100		2.57	2.67	2.81	3.00	3.32	3.81	4.21	4.73	5.52	6.29	7.90	9.84	12.4
∞		2.50	2.60	2.74	2.94	3.25	3.74	4.14	4.67	5.46	6.23	7.86	9.80	12.4
9	8	5.09	5.21	5.37	5.59	5.92	6.41	6.80	7.30	8.05	8.80	10.4	12.5	15.2
10		4.64	4.76	4.92	5.14	5.49	6.00	6.40	6.92	7.71	8.48	10.2	12.2	15.0
11		4.38	4.50	4.66	4.89	5.24	5.76	6.17	6.71	7.51	8.29	9.99	12.1	14.9
12		4.20	4.33	4.49	4.71	5.06	5.59	6.01	6.56	7.37	8.17	9.88	12.0	14.8
13		4.07	4.20	4.36	4.58	4.94	5.47	5.89	6.44	7.27	8.07	9.80	11.9	14.7
15		3.89	4.01	4.18	4.40	4.76	5.29	5.73	6.29	7.13	7.94	9.69	11.8	14.6
17		3.77	3.89	4.05	4.28	4.64	5.18	5.61	6.18	7.03	7.85	9.61	11.8	14.6
20		3.65	3.77	3.93	4.16	4.51	5.06	5.50	6.07	6.93	7.76	9.54	11.7	14.5
30		3.45	3.57	3.73	3.95	4.31	4.86	5.31	5.89	6.77	7.61	9.41	11.6	14.5
50		3.31	3.43	3.59	3.81	4.17	4.73	5.18	5.77	6.65	7.51	9.33	11.5	14.4
100		3.21	3.33	3.49	3.72	4.08	4.63	5.08	5.68	6.57	7.44	9.27	11.5	14.4
∞		3.13	3.25	3.40	3.63	3.99	4.54	5.00	5.60	6.50	7.37	9.21	11.4	14.3
M	N	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %

B

N	M	B												M	N
		0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	
9	10	3.59	3.88	4.06	4.30	4.64	5.02	5.25	5.43	5.57	5.68	5.79	5.88	5.96	10
	11	3.18	3.45	3.62	3.84	4.17	4.53	4.76	4.93	5.07	5.19	5.29	5.39	5.47	11
	12	2.94	3.20	3.36	3.57	3.89	4.25	4.48	4.65	4.79	4.90	5.01	5.10	5.18	12
	13	2.78	3.03	3.18	3.39	3.71	4.06	4.28	4.45	4.59	4.70	4.81	4.90	4.98	13
	14	2.66	2.90	3.06	3.26	3.57	3.91	4.14	4.30	4.44	4.56	4.66	4.75	4.83	14
	16	2.50	2.73	2.88	3.08	3.38	3.71	3.93	4.10	4.23	4.35	4.45	4.54	4.63	16
	18	2.39	2.62	2.76	2.95	3.25	3.58	3.80	3.96	4.09	4.21	4.31	4.40	4.49	18
	20	2.31	2.53	2.67	2.87	3.15	3.48	3.70	3.86	3.99	4.11	4.21	4.30	4.38	20
	30	2.12	2.32	2.46	2.64	2.91	3.23	3.44	3.60	3.73	3.84	3.94	4.03	4.12	30
	50	1.99	2.19	2.31	2.49	2.76	3.07	3.27	3.43	3.56	3.67	3.77	3.86	3.94	50
	70	1.94	2.13	2.26	2.43	2.70	3.00	3.20	3.36	3.49	3.60	3.70	3.79	3.87	70
	100	1.90	2.09	2.22	2.39	2.65	2.95	3.16	3.31	3.44	3.55	3.65	3.74	3.82	100
	200	1.86	2.05	2.18	2.34	2.60	2.90	3.10	3.26	3.38	3.49	3.59	3.68	3.76	200
	∞	1.83	2.01	2.13	2.30	2.56	2.85	3.05	3.21	3.33	3.44	3.54	3.63	3.71	∞
10	11	4.38	4.69	4.89	5.15	5.52	5.92	6.16	6.35	6.49	6.62	6.73	6.82	6.91	11
	12	3.91	4.21	4.39	4.64	5.00	5.39	5.63	5.82	5.97	6.09	6.20	6.30	6.39	12
	13	3.63	3.92	4.10	4.34	4.69	5.07	5.32	5.50	5.65	5.78	5.89	5.99	6.08	13
	14	3.45	3.72	3.90	4.13	4.47	4.86	5.10	5.28	5.43	5.56	5.67	5.77	5.86	14
	15	3.31	3.58	3.75	3.98	4.32	4.69	4.94	5.12	5.27	5.39	5.51	5.60	5.69	15
	16	3.20	3.46	3.63	3.86	4.19	4.57	4.81	4.99	5.14	5.27	5.38	5.48	5.57	16
	18	3.04	3.30	3.46	3.68	4.01	4.38	4.62	4.80	4.95	5.07	5.18	5.28	5.37	18
	20	2.93	3.18	3.34	3.56	3.88	4.25	4.48	4.66	4.81	4.94	5.05	5.15	5.24	20
	25	2.75	2.99	3.15	3.36	3.68	4.04	4.27	4.45	4.59	4.72	4.83	4.93	5.02	25
	30	2.65	2.89	3.04	3.25	3.56	3.91	4.14	4.32	4.47	4.59	4.70	4.80	4.89	30
	50	2.47	2.70	2.85	3.05	3.35	3.70	3.92	4.10	4.24	4.37	4.48	4.57	4.66	50
	70	2.41	2.63	2.78	2.97	3.27	3.61	3.84	4.01	4.16	4.28	4.39	4.49	4.58	70
	100	2.36	2.58	2.72	2.92	3.21	3.55	3.78	3.95	4.09	4.22	4.33	4.42	4.51	100
	200	2.31	2.53	2.67	2.86	3.15	3.49	3.71	3.88	4.03	4.15	4.26	4.36	4.44	200
	∞	2.26	2.47	2.61	2.80	3.09	3.43	3.65	3.82	3.96	4.08	4.19	4.29	4.38	∞
11	12	5.19	5.53	5.74	6.01	6.41	6.83	7.09	7.28	7.44	7.57	7.68	7.78	7.87	12
	13	4.68	5.00	5.20	5.46	5.85	6.26	6.53	6.72	6.88	7.01	7.12	7.23	7.32	13
	14	4.37	4.68	4.87	5.13	5.51	5.92	6.18	6.38	6.54	6.67	6.79	6.89	6.99	14
	15	4.15	4.45	4.64	4.90	5.27	5.68	5.94	6.14	6.30	6.43	6.55	6.66	6.75	15
	16	3.99	4.29	4.47	4.72	5.09	5.50	5.76	5.96	6.12	6.25	6.37	6.48	6.57	16
	17	3.86	4.16	4.34	4.59	4.95	5.36	5.62	5.82	5.98	6.11	6.23	6.34	6.43	17
	18	3.76	4.05	4.23	4.48	4.84	5.24	5.50	5.70	5.86	5.99	6.11	6.22	6.32	18
	20	3.60	3.89	4.07	4.31	4.66	5.06	5.32	5.52	5.68	5.81	5.93	6.04	6.14	20
	25	3.36	3.64	3.81	4.04	4.39	4.79	5.04	5.24	5.40	5.53	5.65	5.76	5.86	25
	30	3.23	3.50	3.67	3.90	4.24	4.63	4.88	5.08	5.24	5.37	5.49	5.60	5.70	30
	50	3.00	3.25	3.42	3.64	3.97	4.36	4.61	4.80	4.96	5.09	5.21	5.32	5.42	50
	70	2.91	3.16	3.32	3.54	3.87	4.25	4.50	4.69	4.85	4.98	5.10	5.21	5.31	70
	100	2.85	3.10	3.26	3.47	3.80	4.18	4.43	4.62	4.77	4.91	5.03	5.14	5.23	100
	200	2.78	3.03	3.19	3.40	3.72	4.10	4.34	4.53	4.69	4.82	4.94	5.05	5.15	200
	∞	2.72	2.96	3.12	3.33	3.65	4.02	4.27	4.45	4.61	4.74	4.86	4.97	5.07	∞
N	M	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	M N
		B													

B												M	N
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	
6.03	6.16	6.33	6.56	6.91	7.44	7.85	8.39	9.22	10.0	11.9	14.1	17.2	10
5.54	5.68	5.85	6.09	6.46	7.00	7.44	8.01	8.87	9.72	11.6	13.9	17.0	11
5.26	5.39	5.57	5.81	6.18	6.75	7.19	7.78	8.66	9.52	11.4	13.7	16.9	12
5.06	5.20	5.37	5.61	6.00	6.57	7.02	7.62	8.51	9.39	11.3	13.6	16.8	13
4.91	5.05	5.22	5.47	5.86	6.43	6.90	7.50	8.41	9.29	11.2	13.6	16.7	14
4.70	4.84	5.02	5.27	5.66	6.24	6.72	7.33	8.25	9.15	11.1	13.5	16.6	16
4.56	4.70	4.88	5.13	5.52	6.11	6.59	7.21	8.15	9.06	11.0	13.4	16.6	18
4.46	4.60	4.78	5.02	5.42	6.02	6.50	7.13	8.07	8.99	11.0	13.4	16.5	20
4.19	4.33	4.51	4.76	5.16	5.77	6.26	6.90	7.87	8.81	10.8	13.2	16.4	30
4.01	4.15	4.33	4.58	4.98	5.59	6.09	6.75	7.73	8.68	10.7	13.1	16.4	50
3.94	4.08	4.26	4.51	4.91	5.53	6.03	6.69	7.68	8.63	10.7	13.1	16.4	70
3.89	4.03	4.21	4.46	4.86	5.48	5.98	6.64	7.64	8.60	10.6	13.1	16.3	100
3.84	3.97	4.15	4.40	4.80	5.42	5.93	6.59	7.59	8.56	10.6	13.1	16.3	200
3.78	3.92	4.09	4.34	4.75	5.37	5.88	6.55	7.55	8.52	10.6	13.0	16.3	∞
6.98	7.12	7.30	7.54	7.91	8.47	8.91	9.49	10.4	11.3	13.3	15.8	19.2	11
6.47	6.61	6.79	7.04	7.43	8.02	8.48	9.09	10.0	11.0	13.0	15.5	19.0	12
6.16	6.30	6.49	6.74	7.15	7.75	8.23	8.86	9.81	10.8	12.8	15.4	18.9	13
5.94	6.09	6.27	6.54	6.94	7.56	8.05	8.69	9.66	10.6	12.7	15.3	18.8	14
5.78	5.92	6.11	6.38	6.79	7.41	7.91	8.56	9.55	10.5	12.6	15.2	18.7	15
5.65	5.80	5.99	6.25	6.67	7.30	7.80	8.46	9.46	10.4	12.6	15.2	18.7	16
5.46	5.61	5.80	6.07	6.49	7.13	7.64	8.31	9.33	10.3	12.5	15.1	18.6	18
5.32	5.47	5.66	5.93	6.36	7.01	7.53	8.21	9.23	10.2	12.4	15.0	18.5	20
5.10	5.25	5.45	5.72	6.15	6.81	7.34	8.04	9.08	10.1	12.3	14.9	18.5	25
4.98	5.13	5.32	5.59	6.03	6.69	7.23	7.93	8.99	10.0	12.2	14.9	18.4	30
4.75	4.90	5.09	5.37	5.81	6.48	7.03	7.75	8.83	9.87	12.1	14.8	18.4	50
4.66	4.81	5.01	5.28	5.72	6.40	6.95	7.68	8.76	9.81	12.1	14.8	18.3	70
4.60	4.75	4.94	5.22	5.66	6.34	6.90	7.62	8.72	9.77	12.0	14.7	18.3	100
4.53	4.68	4.87	5.15	5.59	6.28	6.84	7.57	8.66	9.73	12.0	14.7	18.3	200
4.46	4.61	4.81	5.08	5.53	6.22	6.78	7.51	8.62	9.68	12.0	14.7	18.3	∞
7.95	8.09	8.28	8.53	8.92	9.50	9.97	10.6	11.6	12.5	14.7	17.5	21.2	12
7.40	7.55	7.75	8.01	8.42	9.04	9.53	10.2	11.2	12.2	14.4	17.2	21.0	13
7.07	7.23	7.42	7.69	8.12	8.76	9.27	9.94	11.0	12.0	14.2	17.1	20.9	14
6.84	6.99	7.19	7.47	7.90	8.56	9.08	9.77	10.8	11.9	14.1	17.0	20.8	15
6.66	6.82	7.02	7.30	7.74	8.40	8.94	9.63	10.7	11.7	14.0	16.9	20.7	16
6.52	6.68	6.88	7.17	7.61	8.28	8.82	9.53	10.6	11.7	14.0	16.8	20.7	17
6.41	6.56	6.77	7.06	7.50	8.18	8.73	9.44	10.5	11.6	13.9	16.8	20.6	18
6.23	6.39	6.60	6.88	7.34	8.03	8.58	9.31	10.4	11.5	13.8	16.7	20.6	20
5.95	6.11	6.32	6.62	7.08	7.79	8.36	9.10	10.2	11.3	13.7	16.6	20.5	25
5.79	5.95	6.16	6.46	6.93	7.64	8.22	8.98	10.1	11.2	13.6	16.5	20.4	30
5.51	5.67	5.88	6.18	6.66	7.39	7.99	8.76	9.93	11.1	13.5	16.4	20.3	50
5.40	5.56	5.78	6.08	6.56	7.30	7.89	8.68	9.86	11.0	13.4	16.4	20.3	70
5.32	5.49	5.70	6.00	6.49	7.23	7.83	8.62	9.80	11.0	13.4	16.4	20.3	100
5.24	5.40	5.62	5.92	6.41	7.15	7.76	8.55	9.75	10.9	13.4	16.3	20.3	200
5.16	5.32	5.54	5.84	6.33	7.08	7.69	8.49	9.69	10.9	13.3	16.3	20.3	∞
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	M N
B													

N	M	B												M	N
		0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	
12	13	6.03	6.39	6.61	6.90	7.31	7.75	8.03	8.23	8.39	8.52	8.64	8.74	8.83	12
	14	5.47	5.81	6.03	6.31	6.72	7.16	7.43	7.64	7.80	7.94	8.06	8.17	8.26	
	15	5.13	5.46	5.67	5.95	6.35	6.79	7.07	7.27	7.44	7.58	7.70	7.81	7.91	
	16	4.88	5.21	5.42	5.69	6.09	6.53	6.81	7.01	7.18	7.33	7.45	7.56	7.66	
	17	4.70	5.03	5.23	5.50	5.90	6.33	6.61	6.82	6.99	7.13	7.26	7.37	7.47	
	18	4.56	4.88	5.08	5.35	5.74	6.18	6.45	6.66	6.83	6.97	7.10	7.21	7.32	
	20	4.34	4.66	4.85	5.12	5.51	5.94	6.22	6.42	6.60	6.74	6.87	6.98	7.08	
	25	4.03	4.33	4.52	4.77	5.16	5.58	5.86	6.07	6.24	6.39	6.51	6.63	6.73	
	30	3.85	4.14	4.33	4.58	4.96	5.38	5.66	5.87	6.04	6.18	6.31	6.43	6.53	
	40	3.66	3.94	4.13	4.37	4.74	5.16	5.44	5.64	5.82	5.96	6.09	6.21	6.31	
	50	3.55	3.84	4.02	4.26	4.63	5.04	5.32	5.52	5.69	5.84	5.97	6.09	6.19	
	70	3.44	3.72	3.90	4.14	4.50	4.92	5.19	5.39	5.56	5.71	5.84	5.96	6.06	
	100	3.37	3.64	3.82	4.06	4.42	4.83	5.10	5.30	5.47	5.62	5.75	5.87	5.97	
	200	3.28	3.56	3.73	3.96	4.32	4.73	5.00	5.20	5.37	5.52	5.65	5.77	5.87	
	400	3.25	3.51	3.69	3.92	4.28	4.68	4.95	5.16	5.33	5.47	5.60	5.72	5.82	
	∞	3.21	3.47	3.65	3.88	4.23	4.64	4.90	5.11	5.28	5.43	5.55	5.67	5.78	
13	14	6.89	7.27	7.50	7.80	8.23	8.69	8.97	9.18	9.34	9.48	9.60	9.71	9.81	13
	15	6.29	6.65	6.88	7.18	7.60	8.06	8.35	8.56	8.73	8.88	9.00	9.11	9.21	
	16	5.91	6.27	6.49	6.79	7.21	7.67	7.96	8.18	8.35	8.50	8.63	8.74	8.85	
	17	5.65	6.00	6.22	6.51	6.93	7.40	7.69	7.90	8.08	8.23	8.36	8.48	8.58	
	18	5.44	5.79	6.01	6.30	6.72	7.18	7.47	7.69	7.87	8.02	8.15	8.27	8.38	
	20	5.15	5.49	5.71	5.99	6.41	6.87	7.16	7.38	7.56	7.72	7.85	7.97	8.08	
	25	4.73	5.06	5.27	5.55	5.96	6.42	6.71	6.94	7.12	7.27	7.41	7.53	7.64	
	30	4.51	4.83	5.03	5.31	5.71	6.17	6.46	6.69	6.87	7.03	7.16	7.29	7.40	
	35	4.37	4.68	4.88	5.15	5.56	6.01	6.30	6.53	6.71	6.87	7.00	7.13	7.24	
	40	4.27	4.58	4.78	5.05	5.45	5.90	6.19	6.42	6.60	6.76	6.89	7.02	7.13	
	50	4.14	4.45	4.64	4.91	5.31	5.75	6.05	6.27	6.45	6.61	6.75	6.87	6.99	
	70	4.00	4.31	4.50	4.76	5.16	5.60	5.89	6.12	6.30	6.46	6.60	6.72	6.84	
	100	3.91	4.21	4.40	4.66	5.05	5.50	5.79	6.01	6.19	6.35	6.49	6.62	6.73	
	200	3.81	4.10	4.29	4.55	4.94	5.38	5.67	5.89	6.08	6.23	6.37	6.50	6.61	
	400	3.76	4.05	4.24	4.50	4.88	5.32	5.61	5.84	6.02	6.18	6.32	6.44	6.56	
	∞	3.71	4.01	4.19	4.45	4.83	5.27	5.56	5.78	5.96	6.12	6.26	6.39	6.50	
14	15	7.77	8.16	8.40	8.72	9.16	9.64	9.93	10.1	10.3	10.5	10.6	10.7	10.8	14
	16	7.12	7.51	7.75	8.06	8.50	8.98	9.28	9.50	9.68	9.83	9.95	10.1	10.2	
	17	6.72	7.10	7.33	7.64	8.09	8.57	8.87	9.10	9.28	9.43	9.56	9.68	9.79	
	18	6.43	6.81	7.04	7.35	7.79	8.28	8.58	8.81	8.99	9.15	9.28	9.40	9.51	
	19	6.21	6.58	6.81	7.12	7.56	8.05	8.35	8.58	8.77	8.93	9.06	9.19	9.30	
	20	6.03	6.40	6.63	6.93	7.38	7.86	8.17	8.40	8.59	8.75	8.89	9.01	9.12	
	25	5.49	5.85	6.07	6.37	6.80	7.29	7.60	7.84	8.03	8.19	8.34	8.46	8.58	
	30	5.21	5.55	5.77	6.07	6.50	6.99	7.30	7.54	7.73	7.89	8.04	8.17	8.29	
	35	5.03	5.37	5.59	5.88	6.31	6.79	7.11	7.34	7.54	7.70	7.85	7.98	8.10	
	40	4.91	5.25	5.46	5.75	6.18	6.66	6.97	7.21	7.41	7.57	7.72	7.85	7.97	
	50	4.75	5.08	5.30	5.58	6.01	6.49	6.80	7.04	7.24	7.40	7.55	7.68	7.80	
	70	4.59	4.92	5.12	5.41	5.83	6.31	6.62	6.86	7.06	7.22	7.37	7.50	7.63	
	100	4.47	4.80	5.01	5.29	5.71	6.18	6.50	6.73	6.93	7.10	7.25	7.38	7.50	
	200	4.35	4.67	4.88	5.15	5.57	6.05	6.36	6.60	6.79	6.96	7.11	7.24	7.37	
	400	4.29	4.61	4.82	5.09	5.51	5.98	6.29	6.53	6.73	6.90	7.04	7.18	7.30	
	∞	4.24	4.56	4.76	5.03	5.45	5.92	6.23	6.47	6.66	6.83	6.98	7.12	7.24	
N	M	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	
		B													

M	N	B												
		1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %
13	12	8.92	9.07	9.26	9.52	9.93	10.5	11.0	11.7	12.7	13.8	16.1	19.1	23.2
14		8.35	8.51	8.71	8.98	9.42	10.1	10.6	11.3	12.4	13.4	15.8	18.9	23.0
15		8.00	8.16	8.37	8.65	9.10	9.77	10.3	11.0	12.1	13.2	15.7	18.7	22.9
16		7.75	7.92	8.13	8.42	8.87	9.56	10.1	10.8	12.0	13.1	15.5	18.6	22.8
17		7.56	7.73	7.94	8.24	8.70	9.40	9.97	10.7	11.8	13.0	15.5	18.5	22.7
18		7.41	7.58	7.79	8.09	8.56	9.27	9.85	10.6	11.8	12.9	15.4	18.5	22.7
20		7.18	7.35	7.57	7.87	8.35	9.08	9.67	10.4	11.6	12.8	15.3	18.4	22.6
25		6.83	7.00	7.23	7.54	8.03	8.78	9.39	10.2	11.4	12.6	15.1	18.3	22.5
30		6.63	6.81	7.03	7.35	7.85	8.61	9.23	10.0	11.3	12.5	15.0	18.2	22.4
40		6.41	6.59	6.81	7.13	7.64	8.42	9.05	9.87	11.1	12.3	14.9	18.1	22.4
50		6.29	6.47	6.70	7.02	7.53	8.32	8.95	9.78	11.0	12.3	14.9	18.1	22.3
70		6.16	6.34	6.57	6.89	7.41	8.20	8.85	9.69	11.0	12.2	14.8	18.0	22.3
100		6.07	6.25	6.48	6.81	7.33	8.12	8.77	9.62	10.9	12.1	14.8	18.0	22.3
200		5.97	6.15	6.38	6.71	7.23	8.03	8.69	9.55	10.8	12.1	14.8	18.0	22.3
400		5.92	6.10	6.33	6.66	7.19	7.99	8.65	9.51	10.8	12.1	14.7	18.0	22.2
∞		5.88	6.05	6.29	6.61	7.14	7.95	8.61	9.47	10.8	12.0	14.7	18.0	22.2
14	13	9.89	10.0	10.2	10.5	10.9	11.6	12.1	12.8	13.9	15.0	17.6	20.8	25.2
15		9.31	9.47	9.68	9.97	10.4	11.1	11.6	12.4	13.5	14.7	17.3	20.5	25.0
16		8.94	9.11	9.32	9.62	10.1	10.8	11.4	12.1	13.3	14.5	17.1	20.4	24.9
17		8.68	8.85	9.07	9.37	9.85	10.6	11.2	11.9	13.1	14.3	17.0	20.3	24.8
18		8.47	8.65	8.87	9.18	9.67	10.4	11.0	11.8	13.0	14.2	16.9	20.2	24.7
20		8.18	8.36	8.58	8.90	9.40	10.2	10.8	11.6	12.8	14.1	16.7	20.1	24.6
25		7.74	7.92	8.16	8.49	9.01	9.80	10.4	11.3	12.6	13.8	16.6	19.9	24.5
30		7.50	7.69	7.93	8.26	8.79	9.60	10.3	11.1	12.4	13.7	16.5	19.9	24.4
35		7.34	7.53	7.77	8.11	8.65	9.47	10.1	11.0	12.3	13.6	16.4	19.8	24.4
40		7.24	7.42	7.67	8.01	8.55	9.37	10.0	10.9	12.3	13.6	16.4	19.8	24.4
50		7.09	7.28	7.53	7.87	8.42	9.25	9.93	10.8	12.2	13.5	16.3	19.7	24.3
70		6.94	7.13	7.38	7.72	8.28	9.12	9.81	10.7	12.1	13.4	16.2	19.7	24.3
100		6.83	7.03	7.27	7.62	8.18	9.03	9.73	10.6	12.0	13.3	16.2	19.7	24.3
200		6.72	6.91	7.16	7.51	8.07	8.93	9.63	10.6	11.9	13.3	16.2	19.6	24.2
400		6.66	6.85	7.10	7.45	8.02	8.88	9.59	10.5	11.9	13.3	16.1	19.6	24.2
∞		6.61	6.80	7.05	7.40	7.97	8.83	9.54	10.5	11.9	13.2	16.1	19.6	24.2
15	14	10.9	11.0	11.2	11.5	12.0	12.6	13.2	13.9	15.1	16.3	19.0	22.5	27.2
16		10.3	10.4	10.7	11.0	11.4	12.1	12.7	13.5	14.7	15.9	18.7	22.2	27.0
17		9.89	10.1	10.3	10.6	11.1	11.8	12.4	13.2	14.5	15.7	18.5	22.0	26.9
18		9.61	9.79	10.0	10.3	10.8	11.6	12.2	13.0	14.3	15.6	18.4	21.9	26.8
19		9.40	9.58	9.81	10.1	10.6	11.4	12.0	12.9	14.2	15.4	18.3	21.9	26.7
20		9.23	9.41	9.65	9.98	10.5	11.3	11.9	12.8	14.1	15.4	18.2	21.8	26.6
25		8.69	8.88	9.12	9.47	10.0	10.8	11.5	12.4	13.7	15.1	18.0	21.6	26.5
30		8.39	8.59	8.84	9.19	9.75	10.6	11.3	12.2	13.6	14.9	17.9	21.5	26.4
35		8.21	8.41	8.66	9.02	9.58	10.4	11.1	12.1	13.5	14.8	17.8	21.5	26.4
40		8.08	8.28	8.54	8.90	9.47	10.3	11.0	12.0	13.4	14.8	17.8	21.4	26.4
50		7.91	8.11	8.37	8.74	9.32	10.2	10.9	11.9	13.3	14.7	17.7	21.4	26.3
70		7.74	7.94	8.20	8.57	9.16	10.1	10.8	11.7	13.2	14.6	17.6	21.3	26.3
100		7.61	7.82	8.08	8.45	9.04	9.95	10.7	11.7	13.1	14.5	17.6	21.3	26.3
200		7.48	7.68	7.95	8.32	8.92	9.84	10.6	11.6	13.0	14.5	17.5	21.3	26.2
400		7.41	7.62	7.89	8.26	8.86	9.78	10.5	11.5	13.0	14.4	17.5	21.3	26.2
∞		7.35	7.56	7.82	8.20	8.80	9.73	10.5	11.5	13.0	14.4	17.5	21.2	26.2
M	N	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %
		B												

N	M	B													M	N
		0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%		
15	16	8.66	9.07	9.32	9.64	10.1	10.6	10.9	11.1	11.3	11.4	11.6	11.7	11.8		
	17	7.98	8.38	8.63	8.95	9.41	9.91	10.2	10.4	10.6	10.8	10.9	11.0	11.1		
	18	7.55	7.95	8.19	8.51	8.98	9.48	9.79	10.0	10.2	10.4	10.5	10.6	10.7		
	19	7.24	7.63	7.88	8.20	8.66	9.17	9.48	9.72	9.91	10.1	10.2	10.3	10.5		
	20	7.00	7.39	7.63	7.95	8.42	8.93	9.24	9.48	9.68	9.84	9.98	10.1	10.2		
	22	6.65	7.03	7.27	7.59	8.06	8.57	8.89	9.13	9.33	9.50	9.64	9.77	9.89		
	25	6.30	6.68	6.91	7.23	7.69	8.21	8.53	8.78	8.98	9.15	9.30	9.43	9.55		
	30	5.94	6.31	6.55	6.86	7.32	7.83	8.16	8.41	8.62	8.79	8.94	9.08	9.20		
	35	5.72	6.09	6.32	6.63	7.09	7.60	7.94	8.19	8.39	8.56	8.72	8.86	8.98		
	40	5.58	5.94	6.17	6.48	6.93	7.45	7.78	8.03	8.23	8.41	8.56	8.70	8.83		
	50	5.39	5.75	5.97	6.28	6.73	7.24	7.58	7.83	8.03	8.21	8.37	8.51	8.63		
	70	5.19	5.55	5.77	6.07	6.52	7.03	7.37	7.62	7.83	8.00	8.16	8.30	8.43		
	100	5.06	5.41	5.63	5.93	6.38	6.89	7.22	7.47	7.68	7.86	8.02	8.16	8.29		
	200	4.91	5.26	5.48	5.78	6.22	6.73	7.06	7.31	7.52	7.70	7.86	8.00	8.13		
	400	4.85	5.19	5.41	5.70	6.15	6.65	6.99	7.24	7.45	7.63	7.79	7.93	8.06		
	∞	4.78	5.12	5.34	5.63	6.08	6.58	6.91	7.17	7.38	7.56	7.71	7.86	7.99		
16	17	9.56	9.98	10.2	10.6	11.0	11.5	11.8	12.1	12.3	12.4	12.5	12.6	12.8		
	18	8.85	9.27	9.52	9.86	10.3	10.8	11.2	11.4	11.6	11.7	11.9	12.0	12.1		
	19	8.39	8.81	9.06	9.40	9.88	10.4	10.7	11.0	11.2	11.3	11.5	11.6	11.7		
	20	8.06	8.47	8.73	9.06	9.55	10.1	10.4	10.6	10.8	11.0	11.2	11.3	11.4		
	21	7.80	8.22	8.47	8.80	9.29	9.82	10.1	10.4	10.6	10.8	10.9	11.0	11.2		
	22	7.60	8.01	8.26	8.59	9.08	9.61	9.94	10.2	10.4	10.6	10.7	10.9	11.0		
	25	7.15	7.56	7.81	8.14	8.63	9.16	9.50	9.76	9.96	10.1	10.3	10.4	10.6		
	30	6.72	7.11	7.36	7.69	8.17	8.71	9.06	9.32	9.53	9.71	9.87	10.0	10.1		
	35	6.45	6.84	7.09	7.42	7.90	8.44	8.79	9.05	9.26	9.45	9.61	9.75	9.88		
	40	6.27	6.66	6.91	7.23	7.72	8.26	8.60	8.87	9.08	9.27	9.43	9.57	9.71		
	50	6.05	6.43	6.67	7.00	7.48	8.02	8.37	8.63	8.85	9.04	9.20	9.35	9.48		
	70	5.82	6.20	6.43	6.76	7.24	7.78	8.13	8.39	8.61	8.80	8.96	9.11	9.25		
	100	5.66	6.04	6.27	6.59	7.07	7.61	7.96	8.23	8.45	8.63	8.80	8.95	9.09		
	200	5.49	5.86	6.10	6.41	6.89	7.43	7.78	8.05	8.27	8.46	8.62	8.77	8.91		
	400	5.41	5.78	6.01	6.33	6.80	7.34	7.69	7.96	8.18	8.37	8.54	8.69	8.83		
	∞	5.34	5.70	5.94	6.25	6.72	7.26	7.61	7.88	8.10	8.29	8.46	8.61	8.75		
17	18	10.5	10.9	11.2	11.5	12.0	12.5	12.8	13.0	13.2	13.4	13.5	13.6	13.7		
	19	9.73	10.2	10.4	10.8	11.3	11.8	12.1	12.4	12.5	12.7	12.8	13.0	13.1		
	20	9.25	9.68	9.95	10.3	10.8	11.3	11.7	11.9	12.1	12.3	12.4	12.5	12.7		
	21	8.90	9.33	9.59	9.94	10.4	11.0	11.3	11.6	11.8	11.9	12.1	12.2	12.4		
	22	8.63	9.05	9.32	9.67	10.2	10.7	11.1	11.3	11.5	11.7	11.8	12.0	12.1		
	25	8.06	8.49	8.75	9.10	9.60	10.2	10.5	10.8	11.0	11.2	11.3	11.5	11.6		
	30	7.53	7.94	8.20	8.55	9.06	9.62	9.98	10.2	10.5	10.7	10.8	11.0	11.1		
	35	7.21	7.62	7.88	8.23	8.74	9.30	9.66	9.94	10.2	10.3	10.5	10.7	10.8		
	40	7.00	7.41	7.67	8.01	8.52	9.08	9.45	9.72	9.95	10.1	10.3	10.5	10.6		
	45	6.85	7.25	7.51	7.85	8.36	8.93	9.29	9.57	9.80	9.99	10.2	10.3	10.5		
	50	6.73	7.14	7.39	7.74	8.24	8.81	9.18	9.46	9.68	9.88	10.0	10.2	10.3		
	70	6.46	6.87	7.12	7.46	7.96	8.53	8.90	9.18	9.41	9.61	9.78	9.94	10.1		
	100	6.28	6.68	6.93	7.27	7.77	8.34	8.71	8.99	9.22	9.42	9.60	9.75	9.90		
	200	6.09	6.48	6.73	7.07	7.57	8.14	8.51	8.79	9.02	9.22	9.40	9.56	9.70		
	400	6.00	6.39	6.64	6.97	7.47	8.04	8.41	8.69	8.93	9.13	9.30	9.46	9.61		
	∞	5.91	6.30	6.55	6.88	7.38	7.95	8.32	8.60	8.83	9.03	9.21	9.37	9.52		
N	M	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%	M	N
		B														

B												M	N
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %		
11.9	12.0	12.2	12.5	13.0	13.7	14.2	15.0	16.2	17.5	20.4	24.1	29.2	16	15
11.2	11.4	11.6	11.9	12.4	13.2	13.8	14.6	15.9	17.2	20.1	23.9	29.0	17	
10.8	11.0	11.3	11.6	12.1	12.8	13.5	14.3	15.6	17.0	19.9	23.7	28.9	18	
10.6	10.7	11.0	11.3	11.8	12.6	13.3	14.1	15.5	16.8	19.8	23.6	28.8	19	
10.3	10.5	10.8	11.1	11.6	12.4	13.1	14.0	15.3	16.7	19.7	23.5	28.7	20	
10.0	10.2	10.4	10.8	11.3	12.2	12.8	13.7	15.1	16.5	19.6	23.4	28.6	22	
9.66	9.86	10.1	10.5	11.0	11.9	12.6	13.5	14.9	16.3	19.4	23.3	28.5	25	
9.31	9.52	9.78	10.1	10.7	11.6	12.3	13.3	14.7	16.2	19.3	23.2	28.4	30	
9.10	9.30	9.57	9.94	10.5	11.4	12.2	13.1	14.6	16.1	19.2	23.1	28.4	35	
8.94	9.15	9.42	9.80	10.4	11.3	12.1	13.0	14.5	16.0	19.2	23.1	28.4	40	
8.75	8.96	9.24	9.62	10.2	11.2	11.9	12.9	14.4	15.9	19.1	23.0	28.3	50	
8.55	8.76	9.04	9.43	10.0	11.0	11.8	12.8	14.3	15.8	19.0	23.0	28.3	70	
8.41	8.62	8.90	9.29	9.92	10.9	11.7	12.7	14.2	15.7	19.0	23.0	28.3	100	
8.25	8.47	8.75	9.15	9.78	10.8	11.5	12.6	14.1	15.7	18.9	22.9	28.2	200	
8.18	8.40	8.68	9.08	9.71	10.7	11.5	12.5	14.1	15.6	18.9	22.9	28.2	400	
8.11	8.33	8.61	9.01	9.65	10.6	11.4	12.5	14.1	15.6	18.9	22.9	28.2	∞	
12.8	13.0	13.2	13.5	14.0	14.7	15.3	16.1	17.4	18.8	21.8	25.8	31.2	17	16
12.2	12.4	12.6	12.9	13.4	14.2	14.8	15.7	17.0	18.4	21.5	25.5	31.0	18	
11.8	12.0	12.2	12.6	13.1	13.9	14.5	15.4	16.8	18.2	21.4	25.4	30.9	19	
11.5	11.7	11.9	12.3	12.8	13.6	14.3	15.2	16.6	18.0	21.2	25.3	30.8	20	
11.3	11.5	11.7	12.1	12.6	13.5	14.1	15.1	16.5	17.9	21.1	25.2	30.7	21	
11.1	11.3	11.5	11.9	12.5	13.3	14.0	14.9	16.4	17.8	21.1	25.1	30.6	22	
10.7	10.9	11.1	11.5	12.1	13.0	13.7	14.7	16.1	17.6	20.9	25.0	30.5	25	
10.3	10.5	10.7	11.1	11.7	12.7	13.4	14.4	15.9	17.4	20.8	24.9	30.4	30	
10.0	10.2	10.5	10.9	11.5	12.4	13.2	14.2	15.8	17.3	20.7	24.8	30.4	35	
9.83	10.0	10.3	10.7	11.4	12.3	13.1	14.1	15.7	17.2	20.6	24.8	30.4	40	
9.60	9.82	10.1	10.5	11.2	12.1	12.9	14.0	15.6	17.1	20.5	24.7	30.3	50	
9.37	9.60	9.89	10.3	10.9	11.9	12.8	13.8	15.4	17.0	20.5	24.7	30.3	70	
9.21	9.44	9.73	10.1	10.8	11.8	12.6	13.7	15.4	17.0	20.4	24.6	30.2	100	
9.04	9.27	9.56	9.98	10.7	11.7	12.5	13.6	15.3	16.9	20.3	24.6	30.2	200	
8.95	9.18	9.48	9.90	10.6	11.6	12.4	13.6	15.2	16.8	20.3	24.6	30.2	400	
8.88	9.11	9.41	9.83	10.5	11.5	12.4	13.5	15.2	16.8	20.3	24.5	30.2	∞	
13.8	14.0	14.2	14.5	15.0	15.8	16.4	17.2	18.6	20.0	23.3	27.5	33.2	18	17
13.2	13.4	13.6	13.9	14.4	15.2	15.9	16.8	18.2	19.7	23.0	27.2	33.0	19	
12.8	13.0	13.2	13.5	14.1	14.9	15.6	16.5	18.0	19.4	22.8	27.0	32.9	20	
12.5	12.7	12.9	13.3	13.8	14.7	15.4	16.3	17.8	19.3	22.7	26.9	32.8	21	
12.2	12.4	12.7	13.0	13.6	14.5	15.2	16.2	17.6	19.2	22.6	26.8	32.7	22	
11.7	11.9	12.2	12.6	13.2	14.1	14.8	15.8	17.4	18.9	22.4	26.7	32.6	25	
11.2	11.4	11.7	12.1	12.7	13.7	14.5	15.5	17.1	18.7	22.2	26.6	32.5	30	
10.9	11.1	11.4	11.8	12.5	13.5	14.3	15.3	17.0	18.6	22.1	26.5	32.4	35	
10.7	11.0	11.2	11.7	12.3	13.3	14.1	15.2	16.8	18.5	22.0	26.4	32.4	40	
10.6	10.8	11.1	11.5	12.2	13.2	14.0	15.1	16.8	18.4	22.0	26.4	32.3	45	
10.5	10.7	11.0	11.4	12.1	13.1	13.9	15.0	16.7	18.4	21.9	26.4	32.3	50	
10.2	10.4	10.7	11.2	11.9	12.9	13.8	14.9	16.6	18.2	21.9	26.3	32.3	70	
10.0	10.3	10.6	11.0	11.7	12.8	13.6	14.8	16.5	18.2	21.8	26.3	32.2	100	
9.83	10.1	10.4	10.8	11.5	12.6	13.5	14.6	16.4	18.1	21.8	26.2	32.2	200	
9.74	9.98	10.3	10.7	11.4	12.5	13.4	14.6	16.3	18.0	21.7	26.2	32.2	400	
9.65	9.89	10.2	10.7	11.4	12.5	13.4	14.5	16.3	18.0	21.7	26.2	32.2	∞	
1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	M	N
B														

N	M	B 0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%
18	19	11.4	11.8	12.1	12.5	13.0	13.5	13.8	14.0	14.2	14.4	14.5	14.6	14.7
	20	10.6	11.1	11.3	11.7	12.2	12.7	13.1	13.3	13.5	13.7	13.8	13.9	14.1
	21	10.1	10.6	10.8	11.2	11.7	12.3	12.6	12.9	13.1	13.2	13.4	13.5	13.6
	22	9.75	10.2	10.5	10.8	11.3	11.9	12.3	12.5	12.7	12.9	13.0	13.2	13.3
	23	9.46	9.91	10.2	10.5	11.1	11.6	12.0	12.2	12.5	12.6	12.8	12.9	13.1
	25	9.03	9.47	9.75	10.1	10.6	11.2	11.6	11.8	12.1	12.2	12.4	12.5	12.7
	30	8.37	8.81	9.09	9.45	9.98	10.6	10.9	11.2	11.4	11.6	11.8	11.9	12.1
	35	8.00	8.43	8.70	9.06	9.60	10.2	10.6	10.8	11.1	11.3	11.4	11.6	11.7
	40	7.75	8.18	8.45	8.81	9.34	9.94	10.3	10.6	10.8	11.0	11.2	11.4	11.5
	45	7.57	8.00	8.27	8.63	9.16	9.76	10.1	10.4	10.7	10.9	11.0	11.2	11.3
	50	7.44	7.87	8.14	8.50	9.03	9.62	10.0	10.3	10.5	10.7	10.9	11.1	11.2
	70	7.13	7.55	7.82	8.18	8.71	9.30	9.69	9.98	10.2	10.4	10.6	10.8	10.9
	100	6.92	7.34	7.60	7.96	8.49	9.09	9.48	9.77	10.0	10.2	10.4	10.6	10.7
	200	6.70	7.11	7.38	7.73	8.26	8.86	9.25	9.54	9.79	10.0	10.2	10.3	10.5
	400	6.59	7.01	7.27	7.62	8.15	8.75	9.14	9.44	9.68	9.89	10.1	10.2	10.4
	∞	6.50	6.91	7.17	7.52	8.05	8.64	9.03	9.33	9.58	9.79	9.98	10.1	10.3
19	20	12.3	12.8	13.1	13.4	13.9	14.4	14.8	15.0	15.2	15.3	15.5	15.6	15.7
	21	11.5	12.0	12.3	12.6	13.1	13.7	14.0	14.3	14.5	14.6	14.8	14.9	15.0
	22	11.0	11.5	11.7	12.1	12.6	13.2	13.5	13.8	14.0	14.2	14.3	14.5	14.6
	23	10.6	11.1	11.4	11.7	12.3	12.8	13.2	13.5	13.7	13.8	14.0	14.1	14.3
	24	10.3	10.8	11.1	11.4	12.0	12.5	12.9	13.2	13.4	13.6	13.7	13.9	14.0
	25	10.1	10.5	10.8	11.2	11.7	12.3	12.7	12.9	13.2	13.4	13.5	13.7	13.8
	30	9.26	9.72	10.0	10.4	10.9	11.5	11.9	12.2	12.4	12.6	12.8	13.0	13.1
	35	8.81	9.27	9.55	9.93	10.5	11.1	11.5	11.8	12.0	12.2	12.4	12.6	12.7
	40	8.52	8.98	9.26	9.64	10.2	10.8	11.2	11.5	11.7	11.9	12.1	12.3	12.4
	45	8.32	8.77	9.05	9.43	9.98	10.6	11.0	11.3	11.5	11.8	11.9	12.1	12.2
	50	8.17	8.62	8.90	9.27	9.83	10.4	10.8	11.1	11.4	11.6	11.8	12.0	12.1
	70	7.81	8.26	8.53	8.91	9.47	10.1	10.5	10.8	11.0	11.3	11.5	11.6	11.8
	100	7.57	8.01	8.29	8.67	9.22	9.85	10.3	10.6	10.8	11.0	11.2	11.4	11.5
	200	7.32	7.76	8.03	8.41	8.96	9.59	10.0	10.3	10.6	10.8	11.0	11.1	11.3
	400	7.20	7.64	7.91	8.29	8.84	9.47	9.88	10.2	10.4	10.7	10.9	11.0	11.2
	∞	7.09	7.53	7.80	8.17	8.72	9.35	9.76	10.1	10.3	10.6	10.7	10.9	11.1
20	21	13.3	13.7	14.0	14.4	14.9	15.4	15.7	16.0	16.2	16.3	16.5	16.6	16.7
	22	12.4	12.9	13.2	13.6	14.1	14.6	15.0	15.2	15.4	15.6	15.8	15.9	16.0
	23	11.9	12.4	12.7	13.0	13.6	14.1	14.5	14.8	15.0	15.2	15.3	15.4	15.6
	24	11.5	12.0	12.3	12.6	13.2	13.8	14.1	14.4	14.6	14.8	15.0	15.1	15.2
	25	11.2	11.6	11.9	12.3	12.9	13.5	13.8	14.1	14.3	14.5	14.7	14.8	15.0
	27	10.7	11.2	11.5	11.8	12.4	13.0	13.4	13.7	13.9	14.1	14.3	14.4	14.6
	30	10.2	10.7	11.0	11.3	11.9	12.5	12.9	13.2	13.5	13.7	13.8	14.0	14.1
	35	9.66	10.1	10.4	10.8	11.4	12.0	12.4	12.7	13.0	13.2	13.4	13.5	13.7
	40	9.33	9.80	10.1	10.5	11.1	11.7	12.1	12.4	12.7	12.9	13.1	13.2	13.4
	45	9.09	9.56	9.85	10.2	10.8	11.5	11.9	12.2	12.4	12.7	12.8	13.0	13.2
	50	8.91	9.38	9.68	10.1	10.6	11.3	11.7	12.0	12.3	12.5	12.7	12.9	13.0
	70	8.51	8.97	9.27	9.66	10.2	10.9	11.3	11.6	11.9	12.1	12.3	12.5	12.6
	100	8.24	8.70	8.99	9.38	9.96	10.6	11.0	11.4	11.6	11.8	12.0	12.2	12.4
	200	7.96	8.42	8.70	9.09	9.68	10.3	10.8	11.1	11.3	11.6	11.8	12.0	12.1
	400	7.83	8.28	8.57	8.96	9.54	10.2	10.6	10.9	11.2	11.4	11.6	11.8	12.0
	∞	7.70	8.16	8.44	8.83	9.41	10.1	10.5	10.8	11.1	11.3	11.5	11.7	11.9
N	M	0.01%	0.02%	0.03%	0.05%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.7%	0.8%	0.9%

B

N	M	B 1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	M	N
18	19	14.8	15.0	15.2	15.5	16.0	16.8	17.4	18.3	19.8	21.3	24.7	29.1	35.2	19	18
	20	14.2	14.4	14.6	14.9	15.5	16.3	17.0	17.9	19.4	20.9	24.4	28.9	35.0	20	
	21	13.7	13.9	14.2	14.5	15.1	15.9	16.7	17.6	19.1	20.7	24.2	28.7	34.9	21	
	22	13.4	13.6	13.9	14.2	14.8	15.7	16.4	17.4	19.0	20.5	24.1	28.6	34.8	22	
	23	13.2	13.4	13.6	14.0	14.6	15.5	16.2	17.2	18.8	20.4	24.0	28.5	34.7	23	
	25	12.8	13.0	13.3	13.7	14.3	15.2	16.0	17.0	18.6	20.2	23.8	28.4	34.6	25	
	30	12.2	12.4	12.7	13.1	13.8	14.8	15.6	16.6	18.3	20.0	23.6	28.2	34.5	30	
	35	11.9	12.1	12.4	12.8	13.5	14.5	15.3	16.4	18.1	19.8	23.5	28.1	34.4	35	
	40	11.6	11.9	12.2	12.6	13.3	14.3	15.2	16.3	18.0	19.7	23.5	28.1	34.4	40	
	45	11.5	11.7	12.0	12.5	13.1	14.2	15.1	16.2	17.9	19.6	23.4	28.1	34.3	45	
	50	11.4	11.6	11.9	12.3	13.0	14.1	15.0	16.1	17.9	19.6	23.4	28.0	34.3	50	
	70	11.1	11.3	11.6	12.1	12.8	13.9	14.8	15.9	17.7	19.5	23.3	28.0	34.3	70	
	100	10.9	11.1	11.4	11.9	12.6	13.7	14.6	15.8	17.6	19.4	23.2	27.9	34.2	100	
	200	10.6	10.9	11.2	11.7	12.4	13.5	14.5	15.7	17.5	19.3	23.2	27.9	34.2	200	
	400	10.5	10.8	11.1	11.6	12.3	13.5	14.4	15.6	17.5	19.3	23.1	27.9	34.2	400	
	∞	10.4	10.7	11.0	11.5	12.2	13.4	14.3	15.5	17.4	19.2	23.1	27.8	34.2	∞	
19	20	15.8	16.0	16.2	16.5	17.1	17.8	18.5	19.4	20.9	22.5	26.1	30.8	37.2	20	19
	21	15.1	15.3	15.6	15.9	16.5	17.3	18.0	19.0	20.5	22.2	25.8	30.5	37.0	21	
	22	14.7	14.9	15.2	15.5	16.1	17.0	17.7	18.7	20.3	21.9	25.6	30.4	36.8	22	
	23	14.4	14.6	14.9	15.2	15.8	16.7	17.5	18.5	20.1	21.8	25.5	30.3	36.8	23	
	24	14.1	14.3	14.6	15.0	15.6	16.5	17.3	18.3	20.0	21.6	25.4	30.2	36.7	24	
	25	13.9	14.1	14.4	14.8	15.4	16.4	17.2	18.2	19.9	21.6	25.3	30.1	36.6	25	
	30	13.2	13.5	13.8	14.2	14.8	15.8	16.7	17.8	19.5	21.2	25.1	29.9	36.5	30	
	35	12.8	13.1	13.4	13.8	14.5	15.5	16.4	17.5	19.3	21.1	25.0	29.8	36.4	35	
	40	12.6	12.8	13.1	13.6	14.3	15.3	16.2	17.4	19.2	21.0	24.9	29.8	36.4	40	
	45	12.4	12.6	13.0	13.4	14.1	15.2	16.1	17.3	19.1	20.9	24.8	29.7	36.3	45	
	50	12.2	12.5	12.8	13.3	14.0	15.1	16.0	17.2	19.0	20.8	24.8	29.7	36.3	50	
	70	11.9	12.2	12.5	13.0	13.7	14.8	15.8	17.0	18.9	20.7	24.7	29.6	36.3	70	
	100	11.7	12.0	12.3	12.8	13.5	14.7	15.6	16.9	18.7	20.6	24.6	29.6	36.2	100	
	200	11.5	11.7	12.1	12.5	13.3	14.5	15.4	16.7	18.6	20.5	24.6	29.5	36.2	200	
	400	11.3	11.6	11.9	12.4	13.2	14.4	15.4	16.6	18.6	20.5	24.5	29.5	36.2	400	
	∞	11.2	11.5	11.8	12.3	13.1	14.3	15.3	16.6	18.5	20.4	24.5	29.5	36.2	∞	
20	21	16.8	17.0	17.2	17.6	18.1	18.9	19.6	20.5	22.1	23.8	27.6	32.5	39.2	21	20
	22	16.1	16.3	16.6	16.9	17.5	18.4	19.1	20.1	21.7	23.4	27.2	32.2	39.0	22	
	23	15.7	15.9	16.2	16.5	17.1	18.0	18.8	19.8	21.5	23.2	27.1	32.0	38.8	23	
	24	15.4	15.6	15.8	16.2	16.8	17.8	18.5	19.6	21.3	23.0	26.9	31.9	38.8	24	
	25	15.1	15.3	15.6	16.0	16.6	17.6	18.4	19.4	21.1	22.9	26.8	31.8	38.7	25	
	27	14.7	14.9	15.2	15.6	16.3	17.3	18.1	19.2	20.9	22.7	26.7	31.7	38.6	27	
	30	14.3	14.5	14.8	15.2	15.9	16.9	17.8	18.9	20.7	22.5	26.5	31.6	38.5	30	
	35	13.8	14.1	14.4	14.8	15.5	16.6	17.5	18.7	20.5	22.3	26.4	31.5	38.4	35	
	40	13.5	13.8	14.1	14.5	15.3	16.4	17.3	18.5	20.3	22.2	26.3	31.4	38.4	40	
	45	13.3	13.6	13.9	14.4	15.1	16.2	17.1	18.4	20.2	22.1	26.3	31.4	38.3	45	
	50	13.2	13.4	13.7	14.2	15.0	16.1	17.0	18.3	20.2	22.1	26.2	31.4	38.3	50	
	70	12.8	13.0	13.4	13.9	14.6	15.8	16.8	18.1	20.0	21.9	26.1	31.3	38.3	70	
	100	12.5	12.8	13.2	13.6	14.4	15.6	16.6	17.9	19.9	21.8	26.0	31.2	38.2	100	
	200	12.3	12.5	12.9	13.4	14.2	15.4	16.4	17.8	19.8	21.7	26.0	31.2	38.2	200	
	400	12.1	12.4	12.8	13.3	14.1	15.3	16.4	17.7	19.7	21.7	25.9	31.2	38.2	400	
	∞	12.0	12.3	12.7	13.2	14.0	15.2	16.3	17.6	19.6	21.6	25.9	31.2	38.2	∞	
N	M	1.0%	1.2%	1.5%	2 %	3 %	5 %	7 %	10 %	15 %	20 %	30 %	40 %	50 %	M	N

B

4 Tabelas de tráfego excedente *(overflow)* e suas aplicações

Método do valor de dispersão de tráfego

4.1 Generalidades

Para caracterização das oscilações estatísticas do tráfego excedente será indicado, junto da intensidade de tráfego, o seu coeficiente de dispersão.

As tabelas de tráfego excedente (tabelas na Sec. 4.5 e os gráficos de execução colocados na capa, no final do livro) se baseiam nas mesmas suposições das tabelas de dimensionamento para sistemas de perda com acessibilidade plena e um número infinito de fontes de tráfego da Sec. 2.5. Dessa maneira, os cálculos partem da hipótese de que um tráfego totalmente aleatório, com uma intensidade de tráfego (carga oferecida) A, fica disponível a um grupo de troncos com N saídas com acessibilidade plena. Se o tráfego oferecido é processado com perda B, então o tráfego rejeitado (tráfego excedente) tem a intensidade de tráfego $R = AB$ e um coeficiente de dispersão $D > 0$. A intensidade de tráfego R e o coeficiente de dispersão D desse tráfego excedente podem ser retirados, em função da carga oferecida A e do número de troncos de saída N, das tabelas de tráfego excedente (Sec. 4.5) ou dos gráficos de execução. Dois dos 4 valores A, N, R e D sempre determinam os outros dois restantes [1], [16].

As fórmulas vem indicadas na Sec. 4.2.

As curvas de tráfego excedente serão utilizadas como dados de execução para o método de dispersão de tráfego. Esse é um método de aproximação para o dimensionamento de troncos de tráfego excedente, em sistemas de perda com acessibilidade plena. O método do coeficiente de dispersão será esclarecido detalhadamente na Sec. 4.3 e completado por um exemplo numérico de utilização especial na Sec. 4.4.

Os valores indicados nas tabelas de tráfego excedente para o valor de tráfego R, podem também ser utilizados no caso de acessibilidade plena para o cálculo da perda $B = R/A$ [fórmula (4.1)] assim como para o cálculo da probabilidade de demora $P(>0)$ [fórmula (5.8)].

4.2 Resumo de fórmulas e observações complementares

Os símbolos empregados são explicados no Cap. 6.

A intensidade de tráfego excedente R se obtém pela fórmula de perda de Erlang (2.7):

$$R = AB = AE_{1,N}(A) = \frac{\frac{A^{N+1}}{N!}}{\sum_{i=0}^{N} \frac{A^i}{i!}}. \tag{4.1}$$

O coeficiente de dispersão D do tráfego excedente é calculado baseado na seguinte fórmula [1], [16], [13]:

$$D = R\left(\frac{A}{N+1-A+R} - R\right). \tag{4.2}$$

Observações complementares

A intensidade de tráfego e o coeficiente de dispersão estão relacionados com a distribuição do número de chamadas existentes simultaneamente, pelas seguintes relações onde.

A probabilidade de que em um tráfego considerado existam simultaneamente n chamadas, sendo $n = 0, 1, \ldots$ é indicada por P_n.

O número médio μ de chamadas existentes ao mesmo tempo é dado por

$$\mu = \sum_{n=0}^{\infty} nP_n.$$

O desvio quadrático médio σ^2 do número de chamadas existentes simultaneamente em relação ao valor médio (também denominado de variância), é obtido pela fórmula

$$\sigma^2 = \sum_{n=0}^{\infty} (n-\mu)^2 P_n.$$

Daí teremos as definições de

a) intensidade de tráfego (por exemplo, A, y ou R) $= \mu$, (4.3)

b) coeficiente de dispersão $D = \sigma^2 - \mu$. (4.4)

Por meio dessas definições se pode concluir, de maneira formal, que, ao combinar v tráfegos estatisticamente independentes entre si com as intensidades de tráfego $R_1, R_2, \ldots, R_v$ e coeficientes de dispersão $D_1, D_2, \ldots, D_v$,

é válida, para a intensidade de tráfego e o coeficiente de dispersão D do tráfego composto, a seguinte fórmula

$$R = \sum_{i=1}^{v} R_i \quad \text{e} \quad D = \sum_{i=1}^{v} D_i . \tag{4.5}$$

Tráfegos independentes entre si estatisticamente são, por exemplo, os tráfegos excedentes de grupos de troncos separados, aos quais é oferecido um tráfego puramente aleatório.

Tráfegos dependentes entre si estatisticamente são, por exemplo, os tráfegos oferecidos a um grupo de troncos de saída e o tráfego excedente deste grupo.

Em particular, os tráfegos excedentes são sempre dependentes entre si, quando suas chamadas foram oferecidas previamente, aos mesmos troncos de saída, ainda que só parcialmente.

4.3 Dimensionamento dos grupos de troncos de tráfego excedente, segundo o Método do Tráfego de Dispersão

Vamos assumir agora que um tráfego excedente com intensidade R_S e coeficiente de dispersão D_S seja oferecido a um grupo de troncos de tráfego excedente. Esse tráfego oferecido, é normalmente um tráfego composto de várias componentes (tráfegos excedentes de vários grupos assim como eventualmente tráfego puramente aleatório). O método do coeficiente de dispersão permite determinar o número de troncos de saída N_2 das saídas do tráfego excedente de tal modo que, para acessibilidade plena, o tráfego de perda não processado por este grupo (tráfego excedente) tenha a intensidade de tráfego R_V pré-estabelecido.

No entanto, se o tráfego oferecido é composto de componentes de tráfego com diferentes intensidades e coeficientes de dispersão, nada pode ser dito sobre a distribuição porcentual da intensidade R_V do tráfego perdido dentro dos tráfegos excedentes das diversas componentes de tráfego oferecido. A idéia fundamental do Método do Coeficiente de Dispersão para o dimensionamento de grupos de troncos de tráfego excedente consiste em substituir, no processo de cálculo, o tráfego total oferecido pelo tráfego excedente, baseado nos mesmos valores de R_S e D_S e que apresentam um excedente de um só grupo com acessibilidade plena e tráfego oferecido puramente aleatório (ver Fig. 4.1). O número de saídas N_E e a carga oferecida A_E nesse grupo equivalente são obtidos das curvas próprias dos valores dados R_S e D_S, usando-se para o cálculo também valores fracionários de N_E [15].

A determinação do número de saídas N_2 do grupo de tráfego excedente consiste então do seguinte:

O número de saídas (em geral fracionário) $N^* = N_2 + N_E$ de um grupo de troncos de saída é determinado de tal modo que, com acessibilidade plena, exceda um tráfego com valor R_V, da carga oferecida A_E. O número de troncos de saída procurado é então $N_2 = N^* - N_E$, sendo que N_2 será arredondado para um valor inteiro.

O coeficiente de dispersão D_V do tráfego de perda que pode ser lido também nos diagramas de tráfego excedente como resultado adicional, não é de interesse nesse caso. Entretanto, tem grande importância, quando o tráfego excedente, com os valores R_V e D_V, é combinado com outros tráfegos e colocado à disposição de outro grupo de troncos de tráfego excedente, cujo número de saídas também deve ser determinado da mesma forma. O método explicado pode ser repetido passo a passo para o dimensionamento de redes com vários tráfegos excedentes.
Um exemplo numérico do método do coeficiente de dispersão será explicada na Sec. 4.4.

Observação:

O método desenvolvido por R. I. Wilkinson [16], sob a designação de *Equivalent Random Theory*, se baseia na mesma idéia fundamental do método do coeficiente de dispersão explicado aqui e apresenta os mesmos resultados. A única diferença é que Wilkinson utilizou a variância $\sigma^2 = D + R$, no lugar do coeficiente de dispersão D [veja fórmula (4.4)].

4.4 Exemplo de aplicação

Dados:

Entre dois locais deve passar um tráfego de $A = 15$ Erl em cada direção, através de troncos de saída unidirecionais e bidirecionais. Para cada direção devem ser previstos, por razões de economia, $N_1 = 13$ troncos de saída unidirecionais. Admite-se uma perda $B = 1\,\%$ para o tráfego em cada direção, o que é possível porque nesse exemplo a carga oferecida e o número de troncos unidirecionais são os mesmos em ambas as direções.

A determinar:

O número N_2 de troncos de saída bidirecionais necessários (Fig. 4.1a).

Das tabelas de tráfego excedente da Sec. 4.5 temos que, para $A = 15$ Erl e $N_1 = 13$ em cada direção, resulta um tráfego excedente com os valores característicos $R = 3{,}95$ Erl (número superior) e $D = 4{,}5$ (número inferior).

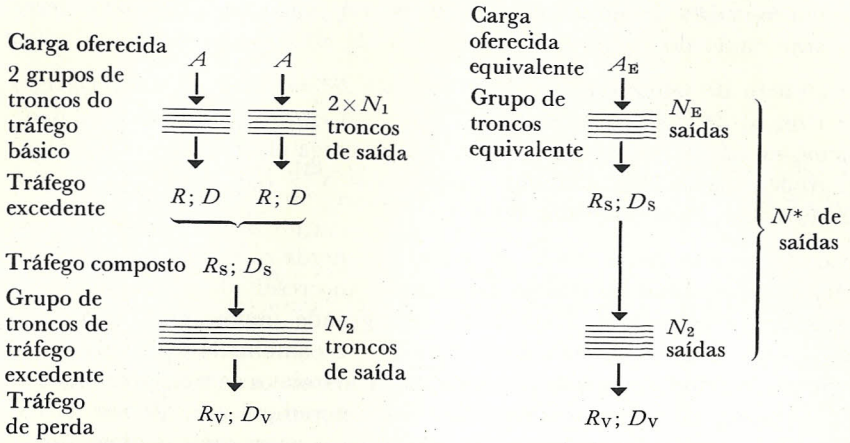

Figura 4.1

Aplicação do método de dispersão de tráfego

Ao grupo de tráfego excedente será franqueado então um tráfego composto dos valores característicos $R_S = 2 \cdot 3{,}95$ Erl $= 7{,}9$ Erl e $D_S = 2 \cdot 4{,}5 = 9{,}0$ Erl. No gráfico de execução 1 (no final do livro) pode-se verificar (ver também Fig. 4.2) que são obtidos resultados análogos para os valores característicos do tráfego total ofertado ao grupo de tráfego excedente, quando a um grupo com $N_E = 17{,}0$ tronco de saída é oferecido um tráfego com $A_E = 23{,}3$ Erl (Fig. 4.1). Admitindo-se uma perda admissível de $B = 1\,\%$, a perda total será $2A = 30$ Erl, de um total de $R_V = B \cdot 2A = 0{,}01 \cdot 30$ Erl $= 0{,}3$ Erl.

A quantidade N_2 de troncos de saída do grupo de tráfego excedente é dimensionado de tal modo que, para uma carga oferecida A_E, um grupo de $N^* = N_E + N_2$ troncos de saída, tenha um tráfego excedente de intensidade $R_V = 0{,}3$ Erl (Fig. 4.2). Para o par de valores 0,3 Erl e $A_E = 23{,}3$ tomamos o diagrama de execução 1, no qual $N^* = 32{,}9$ troncos de saída. O número de troncos de saída procurados N_2 é determinado por $N_2 = N^* - N_E = 32{,}9 - 17{,}0 = 15{,}9$, isto é, devem ser previstos 16 troncos de saída bidirecionais (ver Fig. 4.2).

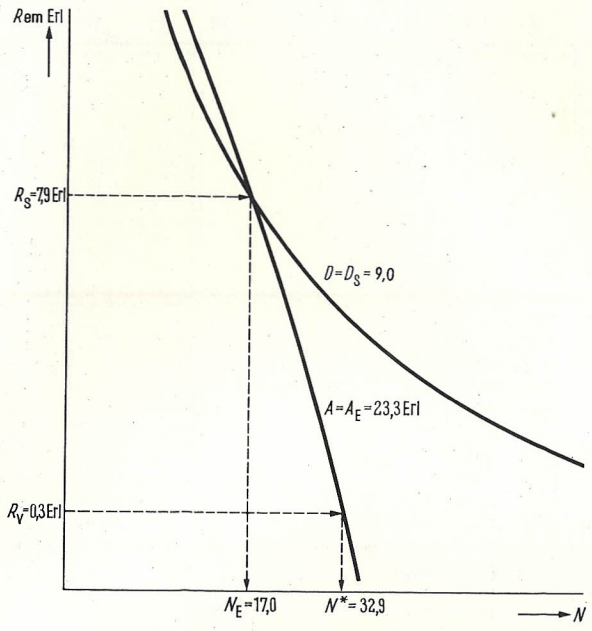

Figura 4.2

Aplicação do método do coeficiente de dispersão: Leitura dos diagramas de execução.

4.5 Tabelas de tráfego excedente

Número infinito de fontes de tráfego
Acessibilidade plena

Veja também os gráficos de execução para o método do coeficiente de dispersão (no final do livro).

Significado:

A Carga oferecida em Erl
D Coeficiente de dispersão do tráfego excedente
N Número de troncos de saída
R Intensidade do tráfego excedente em Erl

R em Erl
D

A em Erl	N = 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0.1	.0091	.0005													
	.0004	.0000													
0.2	.0333	.0033	.0002												
	.0025	.0002	.0000												
0.3	.0692	.0100	.0010	.0001											
	.0069	.0010	.0001	.0000											
0.4	.114	.0216	.0029	.0003											
	.0136	.0028	.0003	.0000											
0.5	.167	.0385	.0063	.0008	.0001										
	.0222	.0061	.0009	.0001	.0000										
0.6	.225	.0607	.0119	.0018	.0002										
	.0325	.0111	.0020	.0002	.0000										
0.7	.288	.0882	.0200	.0035	.0005	.0001									
	.0440	.0181	.0038	.0006	.0001	.0000									
0.8	.356	.121	.0310	.0061	.0010	.0001									
	.0564	.0270	.0067	.0011	.0002	.0000									
0.9	.426	.158	.0451	.0100	.0018	.0003									
	.0696	.0380	.0109	.0021	.0003	.0000									
1.0	.500	.200	.0625	.0154	.0031	.0005	.0001								
	.0833	.0509	.0165	.0036	.0006	.0001	.0000								
1.1	.576	.246	.0834	.0225	.0049	.0009	.0001								
	.0974	.0656	.0238	.0058	.0011	.0002	.0000								
1.2	.655	.296	.108	.0315	.0075	.0015	.0003								
	.112	.0819	.0329	.0089	.0018	.0003	.0000								
1.3	.735	.349	.136	.0426	.0110	.0024	.0004	.0001							
	.126	.0996	.0438	.0130	.0029	.0005	.0001	.0000							
1.4	.817	.406	.167	.0561	.0155	.0036	.0007	.0001							
	.140	.119	.0566	.0183	.0045	.0009	.0002	.0000							
1.5	.900	.466	.201	.0719	.0213	.0053	.0011	.0002							
	.154	.139	.0713	.0250	.0066	.0014	.0003	.0000							
1.6	.985	.528	.239	.0903	.0284	.0075	.0017	.0003	.0001						
	.168	.159	.0878	.0333	.0095	.0022	.0004	.0001	.0000						
1.7	1.07	.593	.280	.111	.0370	.0104	.0025	.0005	.0001						
	.182	.181	.106	.0431	.0131	.0032	.0007	.0001	.0000						
1.8	1.16	.660	.324	.135	.0473	.0141	.0036	.0008	.0002						
	.196	.203	.126	.0547	.0178	.0047	.0010	.0002	.0000						
1.9	1.24	.729	.371	.161	.0594	.0186	.0050	.0012	.0003						
	.209	.226	.148	.0680	.0236	.0066	.0015	.0003	.0001						
2.0	1.33	.800	.421	.190	.0734	.0242	.0069	.0017	.0004	.0001					
	.222	.249	.171	.0831	.0306	.0090	.0022	.0005	.0001	.0000					
2.1	1.42	.873	.473	.222	.0893	.0308	.0092	.0024	.0006	.0001					
	.235	.272	.195	.100	.0391	.0122	.0032	.0007	.0001	.0000					
2.2	1.51	.947	.528	.257	.107	.0387	.0121	.0033	.0008	.0002					
	.248	.295	.220	.119	.0489	.0161	.0044	.0011	.0002	.0000					
2.3	1.60	1.02	.585	.293	.128	.0479	.0156	.0045	.0011	.0003	.0001				
	.260	.319	.247	.139	.0604	.0209	.0060	.0015	.0003	.0001	.0000				
2.4	1.69	1.10	.644	.333	.150	.0585	.0199	.0059	.0016	.0004	.0001				
	.272	.342	.274	.162	.0734	.0267	.0081	.0021	.0005	.0001	.0000				
2.5	1.79	1.18	.705	.375	.174	.0706	.0250	.0078	.0022	.0005	.0001				
	.283	.365	.302	.185	.0882	.0336	.0107	.0029	.0007	.0002	.0000				

A — N

R em Erl
D

A em Erl	N = 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
0.1															
0.2															
0.3															
0.4															
0.5															
0.6															
0.7															
0.8															
0.9															
1.0															
1.1															
1.2															
1.3															
1.4															
1.5															
1.6															
1.7															
1.8															
1.9															
2.0															
2.1															
2.2															
2.3															
2.4															
2.5															

A — N

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2.6	1.88	1.26	.769	.419	.201	.0843	.0309	.0100	.0029	.0008	.0002				
	.295	.388	.331	.211	.105	.0418	.0139	.0040	.0010	.0002	.0000				
2.7	1.97	1.34	.834	.466	.230	.0997	.0379	.0127	.0038	.0010	.0003	.0001			
	.306	.411	.360	.238	.123	.0512	.0177	.0053	.0014	.0003	.0001	.0000			
2.8	2.06	1.42	.900	.514	.261	.117	.0460	.0160	.0050	.0014	.0004	.0001			
	.317	.433	.390	.266	.143	.0621	.0224	.0069	.0019	.0005	.0001	.0000			
2.9	2.16	1.50	.969	.565	.295	.136	.0552	.0199	.0064	.0019	.0005	.0001			
	.327	.456	.420	.296	.165	.0745	.0280	.0090	.0026	.0007	.0002	.0000			
3.0	2.25	1.59	1.04	.618	.330	.156	.0656	.0244	.0081	.0024	.0007	.0002			
	.337	.478	.450	.326	.188	.0885	.0345	.0116	.0034	.0009	.0002	.0000			
3.1	2.34	1.67	1.11	.673	.368	.179	.0773	.0297	.0102	.0032	.0009	.0002	.0001		
	.347	.499	.480	.358	.214	.104	.0422	.0146	.0045	.0012	.0003	.0001	.0000		
3.2	2.44	1.76	1.18	.730	.408	.204	.0904	.0358	.0127	.0040	.0012	.0003	.0001		
	.357	.520	.511	.390	.241	.121	.0510	.0183	.0058	.0016	.0004	.0001	.0000		
3.3	2.53	1.84	1.26	.789	.450	.230	.105	.0428	.0156	.0051	.0015	.0004	.0001		
	.367	.541	.541	.424	.269	.140	.0611	.0227	.0074	.0022	.0006	.0001	.0000		
3.4	2.63	1.93	1.33	.849	.494	.258	.121	.0507	.0190	.0065	.0020	.0006	.0001		
	.376	.562	.572	.458	.299	.161	.0725	.0279	.0094	.0028	.0008	.0002	.0000		
3.5	2.72	2.02	1.41	.911	.539	.289	.139	.0596	.0230	.0080	.0026	.0007	.0002	.0001	
	.385	.582	.602	.493	.330	.183	.0854	.0340	.0118	.0037	.0010	.0003	.0001	.0000	
3.6	2.82	2.11	1.48	.974	.587	.321	.158	.0696	.0276	.0099	.0032	.0010	.0003	.0001	
	.394	.602	.632	.528	.363	.207	.0997	.0410	.0147	.0047	.0014	.0004	.0001	.0000	
3.7	2.91	2.19	1.56	1.04	.637	.355	.179	.0808	.0329	.0121	.0041	.0013	.0004	.0001	
	.402	.622	.662	.563	.397	.233	.116	.0490	.0182	.0060	.0018	.0005	.0001	.0000	
3.8	3.01	2.28	1.64	1.11	.688	.391	.201	.0932	.0389	.0147	.0051	.0016	.0005	.0001	
	.411	.641	.691	.599	.432	.261	.133	.0582	.0222	.0075	.0023	.0007	.0002	.0000	
3.9	3.10	2.37	1.72	1.17	.741	.429	.225	.107	.0457	.0178	.0063	.0020	.0006	.0002	
	.419	.659	.721	.636	.468	.290	.152	.0686	.0269	.0094	.0030	.0009	.0002	.0001	
4.0	3.20	2.46	1.80	1.24	.796	.469	.251	.122	.0534	.0212	.0077	.0026	.0008	.0002	.0001
	.427	.678	.750	.672	.505	.321	.173	.0802	.0324	.0116	.0038	.0011	.0003	.0001	.0000
4.1	3.30	2.55	1.88	1.31	.853	.510	.279	.138	.0619	.0252	.0094	.0032	.0010	.0003	.0001
	.434	.696	.779	.709	.543	.353	.196	.0932	.0387	.0143	.0048	.0015	.0004	.0001	.0000
4.2	3.39	2.64	1.97	1.38	.911	.554	.308	.156	.0714	.0298	.0113	.0040	.0013	.0004	.0001
	.442	.713	.807	.745	.582	.387	.220	.108	.0460	.0174	.0060	.0019	.0005	.0001	.0000
4.3	3.49	2.73	2.05	1.46	.970	.599	.339	.175	.0819	.0349	.0136	.0049	.0016	.0005	.0001
	.449	.730	.835	.782	.621	.422	.246	.124	.0542	.0211	.0074	.0024	.0007	.0002	.0001
4.4	3.59	2.82	2.13	1.53	1.03	.645	.371	.195	.0934	.0407	.0162	.0059	.0020	.0006	.0002
	.456	.747	.863	.818	.661	.458	.274	.141	.0635	.0253	.0091	.0030	.0009	.0003	.0001
4.5	3.68	2.92	2.22	1.61	1.09	.694	.406	.217	.106	.0472	.0192	.0072	.0025	.0008	.0002
	.463	.764	.890	.855	.701	.496	.303	.160	.0739	.0302	.0111	.0038	.0012	.0003	.0001
4.6	3.78	3.01	2.30	1.68	1.16	.744	.442	.241	.120	.0545	.0227	.0087	.0031	.0010	.0003
	.470	.780	.917	.891	.742	.535	.334	.181	.0855	.0359	.0135	.0047	.0015	.0004	.0001
4.7	3.88	3.10	2.39	1.76	1.22	.795	.480	.266	.135	.0625	.0266	.0104	.0038	.0013	.0004
	.477	.796	.943	.927	.784	.575	.366	.203	.0984	.0423	.0163	.0058	.0019	.0006	.0002
4.8	3.97	3.19	2.47	1.83	1.29	.849	.519	.292	.151	.0714	.0310	.0124	.0046	.0016	.0005
	.483	.811	.969	.962	.825	.616	.400	.227	.113	.0496	.0196	.0071	.0024	.0007	.0002
4.9	4.07	3.29	2.56	1.91	1.36	.903	.560	.321	.169	.0812	.0359	.0146	.0055	.0019	.0006
	.490	.827	.995	.998	.867	.658	.436	.253	.128	.0578	.0234	.0086	.0029	.0009	.0003
5.0	4.17	3.38	2.65	1.99	1.42	.959	.603	.350	.187	.0919	.0414	.0172	.0066	.0024	.0008
	.496	.841	1.02	1.03	.909	.701	.473	.280	.145	.0670	.0277	.0104	.0036	.0012	.0004
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	N														

A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2.6															
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4.8	.0001 .0001														
4.9	.0002 .0001	.0001 .0000													
5.0	.0002 .0001	.0001 .0000													
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	N														

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
5.1	4.26	3.47	2.74	2.07	1.49	1.02	.647	.381	.207	.104	.0476	.0201	.0079	.0029	.0010
	.502	.856	1.04	1.07	.951	.744	.512	.309	.164	.0773	.0327	.0126	.0045	.0015	.0005
5.2	4.36	3.57	2.82	2.15	1.56	1.08	.693	.414	.229	.116	.0544	.0235	.0094	.0035	.0012
	.508	.870	1.07	1.10	.993	.788	.552	.340	.184	.0887	.0383	.0151	.0054	.0018	.0006
5.3	4.46	3.66	2.91	2.23	1.64	1.14	.740	.449	.252	.130	.0620	.0272	.0111	.0042	.0015
	.514	.884	1.09	1.14	1.03	.833	.593	.372	.206	.101	.0447	.0179	.0066	.0023	.0007
5.4	4.56	3.75	3.00	2.31	1.71	1.20	.789	.485	.276	.145	.0702	.0314	.0130	.0050	.0018
	.520	.898	1.12	1.17	1.08	.878	.635	.406	.229	.115	.0519	.0212	.0080	.0028	.0009
5.5	4.65	3.85	3.09	2.40	1.78	1.26	.839	.522	.301	.161	.0793	.0361	.0152	.0060	.0022
	.525	.911	1.14	1.20	1.12	.924	.678	.441	.254	.130	.0600	.0251	.0096	.0034	.0011
5.6	4.75	3.94	3.18	2.48	1.86	1.32	.890	.561	.329	.178	.0892	.0413	.0177	.0071	.0026
	.530	.924	1.16	1.24	1.16	.970	.723	.478	.281	.147	.0690	.0294	.0115	.0042	.0014
5.7	4.85	4.04	3.27	2.56	1.93	1.39	.943	.601	.357	.196	.100	.0471	.0206	.0084	.0032
	.536	.937	1.18	1.27	1.20	1.02	.768	.517	.309	.165	.0791	.0343	.0137	.0051	.0017
5.8	4.95	4.13	3.36	2.65	2.01	1.45	.998	.643	.387	.216	.112	.0535	.0238	.0098	.0038
	.541	.950	1.21	1.30	1.24	1.06	.814	.557	.340	.185	.0902	.0399	.0162	.0061	.0021
5.9	5.04	4.23	3.45	2.73	2.08	1.52	1.05	.686	.418	.237	.124	.0605	.0273	.0115	.0045
	.546	.962	1.23	1.33	1.28	1.11	.861	.598	.371	.206	.102	.0462	.0191	.0073	.0026
6.0	5.14	4.32	3.54	2.82	2.16	1.59	1.11	.731	.451	.259	.138	.0682	.0313	.0134	.0054
	.551	.974	1.25	1.36	1.32	1.16	.909	.641	.405	.228	.116	.0532	.0224	.0087	.0032
6.1	5.24	4.42	3.63	2.90	2.24	1.66	1.17	.777	.485	.282	.153	.0766	.0357	.0155	.0063
	.556	.986	1.27	1.39	1.36	1.20	.958	.685	.439	.253	.130	.0611	.0262	.0104	.0038
6.2	5.34	4.51	3.72	2.99	2.32	1.73	1.23	.825	.521	.307	.168	.0857	.0406	.0179	.0074
	.561	.997	1.29	1.42	1.40	1.25	1.01	.730	.476	.278	.146	.0698	.0305	.0123	.0046
6.3	5.44	4.61	3.82	3.08	2.40	1.80	1.29	.874	.558	.333	.185	.0956	.0460	.0206	.0087
	.565	1.01	1.31	1.45	1.44	1.30	1.06	.777	.514	.306	.164	.0795	.0353	.0145	.0055
6.4	5.54	4.70	3.91	3.16	2.48	1.87	1.35	.924	.596	.360	.203	.106	.0519	.0237	.0101
	.570	1.02	1.33	1.48	1.48	1.34	1.11	.824	.554	.335	.183	.0902	.0407	.0170	.0066
6.5	5.63	4.80	4.00	3.25	2.56	1.94	1.41	.976	.636	.389	.222	.118	.0584	.0270	.0117
	.574	1.03	1.35	1.51	1.52	1.39	1.16	.873	.595	.366	.203	.102	.0468	.0199	.0078
6.6	5.73	4.89	4.09	3.34	2.64	2.02	1.48	1.03	.677	.418	.242	.130	.0655	.0308	.0135
	.579	1.04	1.37	1.54	1.56	1.44	1.21	.922	.638	.398	.224	.115	.0536	.0231	.0093
6.7	5.83	4.99	4.18	3.43	2.72	2.09	1.54	1.08	.719	.450	.263	.144	.0733	.0349	.0155
	.583	1.05	1.39	1.57	1.60	1.48	1.26	.972	.682	.432	.248	.129	.0612	.0268	.0109
6.8	5.93	5.08	4.28	3.51	2.81	2.17	1.61	1.14	.763	.482	.286	.158	.0817	.0394	.0178
	.587	1.06	1.40	1.60	1.64	1.53	1.31	1.02	.727	.468	.272	.144	.0696	.0310	.0128
6.9	6.03	5.18	4.37	3.60	2.89	2.24	1.67	1.19	.808	.516	.309	.173	.0908	.0445	.0204
	.591	1.07	1.42	1.62	1.67	1.58	1.36	1.08	.774	.505	.299	.161	.0789	.0357	.0150
7.0	6.12	5.28	4.46	3.69	2.97	2.32	1.74	1.25	.855	.551	.334	.190	.101	.0499	.0232
	.595	1.08	1.44	1.65	1.71	1.62	1.41	1.13	.822	.544	.327	.178	.0891	.0409	.0175
7.1	6.22	5.37	4.56	3.78	3.06	2.40	1.81	1.31	.902	.588	.360	.207	.111	.0559	.0264
	.599	1.09	1.46	1.68	1.74	1.67	1.46	1.18	.871	.584	.356	.198	.100	.0468	.0203
7.2	6.32	5.47	4.65	3.87	3.14	2.47	1.88	1.37	.951	.625	.387	.225	.123	.0625	.0299
	.603	1.10	1.47	1.70	1.78	1.71	1.52	1.23	.921	.626	.388	.218	.112	.0533	.0235
7.3	6.42	5.57	4.74	3.96	3.23	2.55	1.95	1.43	1.00	.665	.416	.245	.135	.0696	.0337
	.607	1.11	1.49	1.73	1.82	1.76	1.57	1.29	.972	.670	.420	.240	.126	.0606	.0270
7.4	6.52	5.66	4.84	4.05	3.31	2.63	2.02	1.49	1.05	.705	.446	.265	.148	.0773	.0379
	.611	1.12	1.51	1.75	1.85	1.80	1.62	1.34	1.02	.715	.455	.264	.140	.0685	.0311
7.5	6.62	5.76	4.93	4.14	3.40	2.71	2.09	1.56	1.11	.747	.477	.287	.162	.0857	.0426
	.615	1.13	1.52	1.78	1.88	1.84	1.67	1.40	1.08	.761	.491	.289	.156	.0774	.0356
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

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A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
5.1	.0003	.0001													
	.0001	.0000													
5.2	.0004	.0001													
	.0002	.0000													
5.3	.0005	.0002													
	.0002	.0001													
5.4	.0006	.0002	.0001												
	.0003	.0001	.0000												
5.5	.0008	.0002	.0001												
	.0004	.0001	.0000												
5.6	.0009	.0003	.0001												
	.0005	.0001	.0000												
5.7	.0011	.0004	.0001												
	.0006	.0002	.0001												
5.8	.0014	.0005	.0002												
	.0007	.0002	.0001												
5.9	.0017	.0006	.0002	.0001											
	.0009	.0003	.0001	.0000											
6.0	.0020	.0007	.0002	.0001											
	.0011	.0004	.0001	.0000											
6.1	.0024	.0009	.0003	.0001											
	.0013	.0004	.0001	.0000											
6.2	.0029	.0010	.0004	.0001											
	.0016	.0005	.0002	.0001											
6.3	.0034	.0013	.0004	.0001											
	.0020	.0007	.0002	.0001											
6.4	.0040	.0015	.0005	.0002	.0001										
	.0024	.0008	.0003	.0001	.0000										
6.5	.0047	.0018	.0007	.0002	.0001										
	.0029	.0010	.0003	.0001	.0000										
6.6	.0056	.0022	.0008	.0003	.0001										
	.0035	.0012	.0004	.0001	.0000										
6.7	.0065	.0026	.0010	.0003	.0001										
	.0042	.0015	.0005	.0002	.0001										
6.8	.0076	.0030	.0011	.0004	.0001										
	.0050	.0018	.0006	.0002	.0001										
6.9	.0088	.0036	.0014	.0005	.0002	.0001									
	.0059	.0022	.0008	.0003	.0001	.0000									
7.0	.0101	.0042	.0016	.0006	.0002	.0001									
	.0070	.0026	.0009	.0003	.0001	.0000									
7.1	.0117	.0049	.0019	.0007	.0003	.0001									
	.0082	.0032	.0011	.0004	.0001	.0000									
7.2	.0134	.0057	.0023	.0009	.0003	.0001									
	.0097	.0038	.0014	.0005	.0002	.0001									
7.3	.0154	.0066	.0027	.0010	.0004	.0001									
	.0113	.0044	.0017	.0006	.0002	.0001									
7.4	.0175	.0076	.0031	.0012	.0005	.0002	.0001								
	.0132	.0053	.0020	.0007	.0002	.0001	.0000								
7.5	.0199	.0088	.0037	.0014	.0005	.0002	.0001								
	.0153	.0062	.0024	.0009	.0003	.0001	.0000								
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

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A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
7.6	6.72	5.86	5.03	4.23	3.48	2.79	2.17	1.62	1.16	.789	.509	.309	.177	.095	.048
	.618	1.14	1.54	1.80	1.92	1.89	1.72	1.45	1.13	.809	.529	.316	.173	.087	.041
7.7	6.81	5.95	5.12	4.32	3.57	2.87	2.24	1.68	1.21	.834	.542	.333	.192	.104	.053
	.622	1.15	1.55	1.83	1.95	1.93	1.77	1.51	1.19	.858	.568	.344	.191	.098	.046
7.8	6.91	6.05	5.21	4.41	3.66	2.95	2.31	1.75	1.27	.879	.577	.358	.209	.115	.059
	.625	1.15	1.57	1.85	1.98	1.97	1.82	1.56	1.24	.908	.609	.374	.211	.109	.052
7.9	7.01	6.15	5.31	4.51	3.74	3.04	2.39	1.82	1.33	.926	.613	.384	.227	.126	.066
	.629	1.16	1.58	1.87	2.02	2.01	1.87	1.62	1.30	.960	.652	.406	.232	.122	.059
8.0	7.11	6.24	5.40	4.60	3.83	3.12	2.47	1.88	1.39	.973	.650	.411	.245	.138	.073
	.632	1.17	1.60	1.89	2.05	2.06	1.92	1.68	1.35	1.01	.696	.439	.254	.135	.067
8.1	7.21	6.34	5.50	4.69	3.92	3.20	2.54	1.95	1.44	1.02	.689	.440	.265	.150	.080
	.635	1.18	1.61	1.92	2.08	2.10	1.97	1.73	1.41	1.07	.741	.474	.278	.150	.075
8.2	7.31	6.44	5.59	4.78	4.01	3.28	2.62	2.02	1.50	1.07	.728	.469	.286	.164	.089
	.639	1.19	1.63	1.94	2.11	2.14	2.02	1.79	1.47	1.12	.788	.510	.303	.166	.084
8.3	7.41	6.54	5.69	4.87	4.10	3.37	2.70	2.09	1.57	1.12	.769	.500	.307	.178	.098
	.642	1.19	1.64	1.96	2.14	2.18	2.07	1.84	1.53	1.18	.837	.548	.330	.183	.094
8.4	7.51	6.63	5.78	4.97	4.19	3.45	2.77	2.16	1.63	1.18	.811	.532	.330	.194	.107
	.645	1.20	1.65	1.98	2.17	2.22	2.12	1.90	1.59	1.23	.887	.588	.359	.202	.105
8.5	7.61	6.73	5.88	5.06	4.27	3.54	2.85	2.23	1.69	1.23	.854	.565	.354	.210	.117
	.648	1.21	1.67	2.00	2.20	2.26	2.17	1.95	1.65	1.29	.938	.629	.389	.222	.117
8.6	7.70	6.83	5.97	5.15	4.36	3.62	2.93	2.31	1.75	1.28	.899	.599	.379	.227	.128
	.651	1.22	1.68	2.02	2.23	2.29	2.22	2.01	1.71	1.35	.990	.672	.420	.243	.130
8.7	7.80	6.93	6.07	5.24	4.45	3.71	3.01	2.38	1.82	1.34	.944	.635	.405	.245	.140
	.654	1.22	1.69	2.04	2.26	2.33	2.26	2.06	1.76	1.41	1.04	.716	.454	.265	.144
8.8	7.90	7.02	6.17	5.34	4.54	3.79	3.09	2.45	1.88	1.40	.991	.671	.432	.263	.152
	.657	1.23	1.70	2.06	2.29	2.37	2.31	2.12	1.82	1.47	1.10	.762	.488	.289	.159
8.9	8.00	7.12	6.26	5.43	4.63	3.88	3.17	2.53	1.95	1.45	1.04	.709	.460	.283	.165
	.660	1.24	1.72	2.08	2.31	2.41	2.36	2.17	1.88	1.53	1.15	.809	.525	.315	.175
9.0	8.10	7.22	6.36	5.52	4.72	3.96	3.25	2.60	2.02	1.51	1.09	.748	.490	.304	.179
	.663	1.24	1.73	2.10	2.34	2.44	2.40	2.23	1.94	1.59	1.21	.858	.563	.342	.192
9.1	8.20	7.32	6.45	5.62	4.81	4.05	3.34	2.68	2.09	1.57	1.14	.788	.520	.326	.193
	.666	1.25	1.74	2.12	2.37	2.48	2.45	2.28	2.00	1.65	1.27	.909	.603	.370	.211
9.2	8.30	7.41	6.55	5.71	4.91	4.14	3.42	2.75	2.16	1.63	1.19	.829	.551	.349	.209
	.668	1.26	1.75	2.14	2.40	2.52	2.49	2.34	2.06	1.71	1.33	.960	.644	.400	.231
9.3	8.40	7.51	6.65	5.81	5.00	4.23	3.50	2.83	2.23	1.69	1.24	.871	.584	.372	.225
	.671	1.26	1.76	2.16	2.42	2.55	2.54	2.39	2.12	1.77	1.39	1.01	.687	.432	.252
9.4	8.50	7.61	6.74	5.90	5.09	4.31	3.58	2.91	2.30	1.76	1.29	.915	.618	.397	.243
	.674	1.27	1.78	2.17	2.45	2.59	2.58	2.44	2.18	1.84	1.45	1.07	.731	.465	.274
9.5	8.60	7.71	6.84	5.99	5.18	4.40	3.67	2.99	2.37	1.82	1.35	.959	.653	.423	.261
	.676	1.28	1.79	2.19	2.47	2.62	2.63	2.49	2.24	1.90	1.51	1.12	.777	.500	.298
9.6	8.69	7.80	6.93	6.09	5.27	4.49	3.75	3.06	2.44	1.88	1.40	1.00	.689	.450	.280
	.679	1.28	1.80	2.21	2.50	2.65	2.67	2.55	2.30	1.96	1.57	1.18	.825	.536	.324
9.7	8.79	7.90	7.03	6.18	5.36	4.58	3.84	3.14	2.51	1.95	1.46	1.05	.726	.478	.300
	.681	1.29	1.81	2.23	2.52	2.69	2.71	2.60	2.36	2.03	1.64	1.24	.874	.574	.351
9.8	8.89	8.00	7.13	6.28	5.45	4.67	3.92	3.22	2.58	2.01	1.52	1.10	.764	.507	.320
	.684	1.30	1.82	2.24	2.55	2.72	2.75	2.65	2.42	2.09	1.70	1.30	.925	.614	.379
9.9	8.99	8.10	7.22	6.37	5.55	4.76	4.01	3.30	2.66	2.08	1.57	1.15	.803	.537	.342
	.686	1.30	1.83	2.26	2.57	2.75	2.79	2.70	2.48	2.15	1.76	1.36	.977	.655	.409
10.0	9.09	8.20	7.32	6.47	5.64	4.85	4.09	3.38	2.73	2.15	1.63	1.20	.843	.568	.365
	.689	1.31	1.84	2.27	2.59	2.78	2.84	2.75	2.54	2.22	1.83	1.42	1.03	.698	.440
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	N														

N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	A em Erl
.023	.010	.004	.002	.001											7.6
.018	.007	.003	.001	.000											
.026	.012	.005	.002	.001											7.7
.020	.008	.003	.001	.000											
.029	.013	.006	.002	.001											7.8
.023	.010	.004	.001	.001											
.032	.015	.007	.003	.001											7.9
.027	.011	.005	.002	.001											
.036	.017	.008	.003	.001											8.0
.031	.013	.005	.002	.001											
.041	.019	.009	.004	.001	.001										8.1
.035	.015	.006	.002	.001	.000										
.045	.022	.010	.004	.002	.001										8.2
.040	.018	.007	.003	.001	.000										
.050	.024	.011	.005	.002	.001										8.3
.045	.020	.009	.003	.001	.000										
.056	.027	.013	.006	.002	.001										8.4
.051	.023	.010	.004	.002	.001										
.062	.031	.015	.006	.003	.001										8.5
.058	.027	.012	.005	.002	.001										
.068	.034	.016	.007	.003	.001	.001									8.6
.065	.030	.013	.006	.002	.001	.000									
.075	.038	.018	.008	.004	.002	.001									8.7
.072	.034	.015	.006	.003	.001	.000									
.083	.043	.021	.010	.004	.002	.001									8.8
.081	.039	.017	.007	.003	.001	.000									
.091	.047	.023	.011	.005	.002	.001									8.9
.090	.044	.020	.009	.004	.001	.001									
.099	.052	.026	.012	.006	.002	.001									9.0
.101	.049	.023	.010	.004	.002	.001									
.109	.058	.029	.014	.006	.003	.001									9.1
.112	.055	.026	.011	.005	.002	.001									
.119	.064	.032	.016	.007	.003	.001	.001								9.2
.124	.062	.029	.013	.006	.002	.001	.000								
.129	.070	.036	.018	.008	.004	.002	.001								9.3
.137	.069	.033	.015	.006	.003	.001	.000								
.140	.077	.040	.020	.009	.004	.002	.001								9.4
.151	.077	.037	.017	.007	.003	.001	.000								
.152	.084	.044	.022	.010	.005	.002	.001								9.5
.166	.086	.042	.019	.009	.004	.001	.001								
.165	.092	.049	.025	.012	.005	.002	.001								9.6
.182	.096	.047	.022	.010	.004	.002	.001								
.178	.101	.054	.027	.013	.006	.003	.001								9.7
.199	.106	.053	.025	.011	.005	.002	.001								
.192	.110	.059	.031	.015	.007	.003	.001	.001							9.8
.218	.117	.059	.028	.013	.006	.002	.001	.000							
.207	.119	.065	.034	.017	.008	.004	.002	.001							9.9
.238	.129	.066	.032	.015	.006	.003	.001	.000							
.223	.129	.071	.037	.019	.009	.004	.002	.001							10.0
.259	.143	.074	.036	.017	.007	.003	.001	.000							
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	A
N															

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.2	9.29	8.39	7.51	6.66	5.82	5.02	4.26	3.55	2.88	2.28	1.75	1.30	.927	.634	.413
	.693	1.32	1.86	2.31	2.64	2.85	2.92	2.85	2.65	2.34	1.96	1.54	1.14	.788	.508
10.4	9.49	8.59	7.71	6.85	6.01	5.20	4.44	3.71	3.04	2.42	1.88	1.41	1.02	.703	.466
	.698	1.33	1.88	2.34	2.68	2.91	3.00	2.95	2.77	2.47	2.09	1.67	1.26	.885	.582
10.6	9.69	8.79	7.90	7.04	6.20	5.39	4.61	3.87	3.19	2.56	2.00	1.52	1.11	.777	.522
	.702	1.34	1.90	2.37	2.73	2.97	3.07	3.04	2.88	2.60	2.23	1.80	1.38	.987	.662
10.8	9.88	8.98	8.10	7.23	6.38	5.57	4.78	4.04	3.35	2.71	2.13	1.63	1.20	.855	.582
	.707	1.35	1.92	2.39	2.77	3.02	3.15	3.14	2.99	2.72	2.36	1.94	1.50	1.10	.749
11.0	10.1	9.18	8.29	7.42	6.57	5.75	4.96	4.21	3.51	2.86	2.27	1.75	1.30	.937	.647
	.711	1.36	1.94	2.42	2.81	3.08	3.22	3.23	3.10	2.85	2.49	2.08	1.63	1.21	.842
11.2	10.3	9.38	8.49	7.61	6.76	5.93	5.14	4.38	3.67	3.00	2.40	1.87	1.41	1.02	.715
	.715	1.37	1.95	2.45	2.85	3.13	3.29	3.32	3.21	2.97	2.63	2.21	1.77	1.33	.941
11.4	10.5	9.57	8.68	7.80	6.95	6.12	5.32	4.55	3.83	3.16	2.54	1.99	1.52	1.11	.788
	.719	1.38	1.97	2.48	2.89	3.18	3.36	3.40	3.31	3.09	2.76	2.35	1.90	1.45	1.05
11.6	10.7	9.77	8.87	8.00	7.14	6.30	5.50	4.72	3.99	3.31	2.68	2.12	1.63	1.21	.864
	.723	1.39	1.99	2.50	2.92	3.24	3.43	3.49	3.41	3.21	2.90	2.49	2.04	1.58	1.16
11.8	10.9	9.97	9.07	8.19	7.33	6.49	5.68	4.90	4.16	3.47	2.83	2.25	1.74	1.31	.944
	.727	1.40	2.00	2.53	2.96	3.28	3.49	3.57	3.52	3.33	3.03	2.63	2.18	1.72	1.27
12.0	11.1	10.2	9.27	8.38	7.52	6.67	5.86	5.07	4.33	3.62	2.97	2.38	1.86	1.41	1.03
	.730	1.41	2.02	2.55	2.99	3.33	3.56	3.65	3.62	3.45	3.16	2.77	2.33	1.85	1.40
12.2	11.3	10.4	9.46	8.57	7.71	6.86	6.04	5.25	4.49	3.78	3.12	2.52	1.98	1.51	1.12
	.734	1.41	2.03	2.57	3.03	3.38	3.62	3.73	3.71	3.56	3.29	2.92	2.47	1.99	1.52
12.4	11.5	10.6	9.66	8.77	7.90	7.05	6.22	5.42	4.66	3.94	3.27	2.66	2.10	1.62	1.21
	.737	1.42	2.05	2.60	3.06	3.42	3.68	3.81	3.81	3.68	3.42	3.06	2.62	2.14	1.66
12.6	11.7	10.8	9.85	8.96	8.09	7.23	6.40	5.60	4.83	4.11	3.42	2.80	2.23	1.73	1.30
	.741	1.43	2.06	2.62	3.09	3.47	3.74	3.88	3.90	3.79	3.55	3.20	2.76	2.28	1.79
12.8	11.9	11.0	10.0	9.16	8.28	7.42	6.59	5.78	5.01	4.27	3.58	2.94	2.36	1.85	1.40
	.744	1.44	2.07	2.64	3.12	3.51	3.79	3.96	3.99	3.90	3.67	3.34	2.91	2.43	1.93
13.0	12.1	11.2	10.2	9.35	8.47	7.61	6.77	5.96	5.18	4.44	3.74	3.09	2.49	1.97	1.51
	.747	1.45	2.09	2.66	3.15	3.55	3.85	4.03	4.08	4.00	3.80	3.48	3.06	2.58	2.08
13.2	12.3	11.4	10.4	9.54	8.66	7.80	6.96	6.14	5.35	4.60	3.89	3.23	2.63	2.09	1.61
	.750	1.45	2.10	2.68	3.18	3.59	3.90	4.10	4.17	4.11	3.92	3.61	3.21	2.73	2.22
13.4	12.5	11.5	10.6	9.74	8.85	7.99	7.14	6.32	5.53	4.77	4.05	3.38	2.77	2.21	1.72
	.753	1.46	2.11	2.70	3.21	3.63	3.95	4.16	4.25	4.21	4.04	3.75	3.35	2.88	2.37
13.6	12.7	11.7	10.8	9.93	9.05	8.18	7.33	6.50	5.70	4.94	4.21	3.54	2.91	2.34	1.83
	.756	1.47	2.12	2.72	3.24	3.67	4.01	4.23	4.33	4.31	4.16	3.88	3.50	3.04	2.53
13.8	12.9	11.9	11.0	10.1	9.24	8.37	7.51	6.68	5.88	5.11	4.38	3.69	3.05	2.47	1.95
	.759	1.47	2.14	2.74	3.26	3.71	4.06	4.29	4.41	4.41	4.28	4.02	3.65	3.19	2.68
14.0	13.1	12.1	11.2	10.3	9.43	8.56	7.70	6.87	6.06	5.28	4.54	3.84	3.19	2.60	2.07
	.762	1.48	2.15	2.75	3.29	3.74	4.10	4.36	4.49	4.51	4.39	4.15	3.79	3.35	2.84
14.2	13.3	12.3	11.4	10.5	9.62	8.75	7.89	7.05	6.24	5.45	4.71	4.00	3.34	2.74	2.19
	.765	1.49	2.16	2.77	3.32	3.78	4.15	4.42	4.57	4.60	4.50	4.28	3.94	3.50	3.00
14.4	13.5	12.5	11.6	10.7	9.82	8.94	8.08	7.23	6.42	5.63	4.87	4.16	3.49	2.87	2.32
	.768	1.49	2.17	2.79	3.34	3.81	4.20	4.48	4.65	4.69	4.61	4.40	4.08	3.65	3.15
14.6	13.7	12.7	11.8	10.9	10.0	9.13	8.26	7.42	6.60	5.80	5.04	4.32	3.64	3.01	2.44
	.770	1.50	2.18	2.81	3.36	3.85	4.24	4.53	4.72	4.78	4.72	4.53	4.22	3.81	3.31
14.8	13.9	12.9	12.0	11.1	10.2	9.32	8.45	7.60	6.78	5.98	5.21	4.48	3.79	3.16	2.57
	.773	1.51	2.19	2.82	3.39	3.88	4.28	4.59	4.79	4.87	4.82	4.65	4.36	3.96	3.48
15.0	14.1	13.1	12.2	11.3	10.4	9.51	8.64	7.79	6.96	6.16	5.38	4.64	3.95	3.30	2.70
	.776	1.51	2.20	2.84	3.41	3.91	4.33	4.65	4.86	4.96	4.93	4.77	4.50	4.11	3.64
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	N														

A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
10.2	.257	.152	.085	.046	.023	.011	.005	.002	.001						
	.305	.172	.091	.045	.021	.010	.004	.002	.001						
10.4	.294	.177	.101	.055	.029	.014	.007	.003	.001	.001					
	.357	.205	.111	.056	.027	.012	.005	.002	.001	.000					
10.6	.335	.205	.119	.066	.035	.018	.008	.004	.002	.001					
	.415	.244	.134	.070	.034	.016	.007	.003	.001	.001					
10.8	.379	.236	.140	.079	.042	.022	.011	.005	.002	.001					
	.479	.287	.161	.085	.043	.020	.009	.004	.002	.001					
11.0	.427	.270	.162	.093	.051	.027	.013	.006	.003	.001	.001				
	.549	.335	.192	.104	.053	.026	.012	.005	.002	.001	.000				
11.2	.479	.307	.188	.110	.061	.032	.017	.008	.004	.002	.001				
	.625	.390	.228	.126	.066	.033	.015	.007	.003	.001	.001				
11.4	.535	.348	.216	.128	.073	.039	.020	.010	.005	.002	.001				
	.708	.450	.268	.151	.080	.041	.020	.009	.004	.002	.001				
11.6	.594	.392	.247	.149	.086	.047	.025	.013	.006	.003	.001	.001			
	.797	.516	.314	.180	.098	.050	.025	.012	.005	.002	.001	.000			
11.8	.658	.440	.281	.172	.101	.056	.030	.015	.008	.004	.002	.001			
	.892	.588	.365	.213	.118	.062	.031	.015	.007	.003	.001	.001			
12.0	.725	.491	.319	.198	.118	.067	.036	.019	.009	.005	.002	.001			
	.994	.666	.421	.250	.141	.075	.038	.019	.009	.004	.002	.001			
12.2	.796	.546	.359	.226	.136	.079	.044	.023	.012	.006	.003	.001	.001		
	1.10	.751	.483	.293	.168	.091	.047	.023	.011	.005	.002	.001	.000		
12.4	.871	.604	.403	.257	.158	.092	.052	.028	.014	.007	.003	.002	.001		
	1.22	.843	.551	.340	.198	.110	.058	.029	.014	.006	.003	.001	.001		
12.6	.950	.667	.450	.292	.181	.108	.061	.034	.018	.009	.004	.002	.001		
	1.33	.940	.625	.393	.233	.131	.070	.036	.018	.008	.004	.002	.001		
12.8	1.03	.733	.501	.329	.207	.125	.072	.040	.021	.011	.005	.003	.001	.001	
	1.46	1.04	.706	.451	.272	.156	.085	.044	.022	.010	.005	.002	.001	.000	
13.0	1.12	.803	.555	.369	.235	.144	.085	.048	.026	.013	.007	.003	.001	.001	
	1.59	1.15	.793	.515	.316	.184	.102	.054	.027	.013	.006	.003	.001	.001	
13.2	1.21	.876	.613	.412	.267	.165	.099	.056	.031	.016	.008	.004	.002	.001	
	1.72	1.27	.886	.585	.365	.216	.122	.065	.034	.017	.008	.004	.002	.001	
13.4	1.30	.953	.674	.459	.301	.189	.114	.066	.037	.020	.010	.005	.002	.001	
	1.86	1.39	.985	.661	.420	.253	.145	.079	.041	.021	.010	.005	.002	.001	
13.6	1.40	1.03	.739	.509	.338	.215	.132	.077	.044	.024	.012	.006	.003	.001	.001
	2.01	1.52	1.09	.743	.479	.293	.171	.095	.050	.025	.012	.006	.003	.001	.001
13.8	1.50	1.12	.807	.562	.377	.244	.151	.090	.052	.028	.015	.008	.004	.002	.001
	2.15	1.65	1.20	.831	.545	.339	.200	.113	.061	.031	.016	.007	.003	.002	.001
14.0	1.60	1.21	.879	.619	.420	.275	.173	.104	.061	.034	.018	.009	.005	.002	.001
	2.31	1.79	1.32	.926	.617	.389	.234	.134	.073	.038	.019	.009	.004	.002	.001
14.2	1.71	1.30	.955	.680	.467	.309	.196	.120	.071	.040	.022	.011	.006	.003	.001
	2.46	1.93	1.44	1.03	.694	.445	.272	.158	.087	.046	.024	.012	.006	.003	.001
14.4	1.82	1.39	1.03	.743	.516	.345	.223	.138	.082	.047	.026	.014	.007	.004	.002
	2.62	2.08	1.57	1.13	.778	.507	.314	.185	.104	.056	.029	.015	.007	.003	.001
14.6	1.93	1.49	1.12	.811	.569	.385	.251	.158	.095	.055	.031	.017	.009	.004	.002
	2.78	2.23	1.71	1.25	.868	.574	.361	.216	.123	.068	.036	.018	.009	.004	.002
14.8	2.05	1.59	1.20	.881	.625	.427	.282	.179	.110	.065	.037	.020	.011	.005	.003
	2.94	2.38	1.85	1.37	.964	.647	.413	.251	.146	.081	.043	.022	.011	.005	.002
15.0	2.17	1.70	1.29	.955	.684	.473	.316	.203	.126	.075	.043	.024	.013	.007	.003
	3.10	2.54	1.99	1.49	1.07	.726	.470	.290	.171	.096	.052	.027	.014	.007	.003
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	N														

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A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
15.2	14.3	13.3	12.4	11.5	10.6	9.70	8.83	7.97	7.14	6.33	5.55	4.81	4.10	3.45	2.84
	.778	1.52	2.21	2.85	3.43	3.94	4.37	4.70	4.93	5.04	5.03	4.89	4.63	4.26	3.80
15.4	14.5	13.5	12.6	11.7	10.8	9.90	9.02	8.16	7.32	6.51	5.73	4.97	4.26	3.59	2.98
	.780	1.52	2.22	2.87	3.46	3.97	4.41	4.75	4.99	5.12	5.13	5.01	4.77	4.41	3.96
15.6	14.7	13.7	12.8	11.9	11.0	10.1	9.21	8.35	7.51	6.69	5.90	5.14	4.42	3.74	3.12
	.783	1.53	2.23	2.88	3.48	4.00	4.45	4.80	5.06	5.20	5.23	5.13	4.90	4.56	4.12
15.8	14.9	13.9	13.0	12.1	11.2	10.3	9.40	8.54	7.69	6.87	6.07	5.31	4.58	3.90	3.26
	.785	1.53	2.24	2.90	3.50	4.03	4.48	4.85	5.12	5.28	5.32	5.24	5.03	4.71	4.27
16.0	15.1	14.1	13.2	12.3	11.4	10.5	9.59	8.72	7.88	7.05	6.25	5.48	4.74	4.05	3.40
	.787	1.54	2.25	2.91	3.52	4.06	4.52	4.90	5.18	5.36	5.41	5.35	5.16	4.85	4.43
16.2	15.3	14.3	13.4	12.5	11.6	10.7	9.78	8.91	8.06	7.23	6.42	5.65	4.91	4.20	3.55
	.790	1.54	2.26	2.93	3.54	4.08	4.56	4.95	5.24	5.43	5.50	5.46	5.28	4.99	4.59
16.4	15.5	14.5	13.6	12.7	11.8	10.9	9.97	9.10	8.25	7.41	6.60	5.82	5.07	4.36	3.69
	.792	1.55	2.27	2.94	3.56	4.11	4.59	4.99	5.30	5.50	5.59	5.56	5.41	5.13	4.74
16.6	15.7	14.7	13.8	12.9	12.0	11.1	10.2	9.29	8.43	7.59	6.78	5.99	5.24	4.52	3.84
	.794	1.55	2.28	2.95	3.58	4.14	4.63	5.04	5.36	5.57	5.68	5.67	5.53	5.27	4.90
16.8	15.9	14.9	14.0	13.1	12.1	11.2	10.4	9.48	8.62	7.78	6.96	6.17	5.40	4.68	3.99
	.796	1.56	2.28	2.96	3.59	4.16	4.66	5.08	5.41	5.64	5.76	5.77	5.65	5.41	5.05
17.0	16.1	15.1	14.2	13.3	12.3	11.4	10.5	9.67	8.80	7.96	7.14	6.34	5.57	4.84	4.15
	.798	1.56	2.29	2.98	3.61	4.19	4.69	5.12	5.47	5.71	5.85	5.87	5.77	5.54	5.20
17.2	16.3	15.3	14.4	13.5	12.5	11.6	10.7	9.86	8.99	8.14	7.32	6.51	5.74	5.00	4.30
	.800	1.57	2.30	2.99	3.63	4.21	4.73	5.17	5.52	5.78	5.93	5.96	5.88	5.67	5.35
17.4	16.5	15.5	14.6	13.7	12.7	11.8	10.9	10.0	9.18	8.33	7.50	6.69	5.91	5.17	4.46
	.802	1.57	2.31	3.00	3.65	4.23	4.76	5.21	5.57	5.84	6.01	6.06	5.99	5.80	5.50
17.6	16.7	15.7	14.8	13.9	12.9	12.0	11.1	10.2	9.37	8.51	7.68	6.87	6.08	5.33	4.62
	.804	1.58	2.32	3.01	3.66	4.26	4.79	5.25	5.62	5.90	6.08	6.15	6.10	5.93	5.64
17.8	16.9	15.9	15.0	14.0	13.1	12.2	11.3	10.4	9.55	8.70	7.86	7.04	6.26	5.50	4.77
	.806	1.58	2.32	3.02	3.68	4.28	4.82	5.28	5.67	5.97	6.16	6.24	6.21	6.06	5.78
18.0	17.1	16.1	15.2	14.2	13.3	12.4	11.5	10.6	9.74	8.88	8.04	7.22	6.43	5.66	4.93
	.808	1.59	2.33	3.04	3.69	4.30	4.85	5.32	5.72	6.03	6.23	6.33	6.32	6.18	5.92
18.2	17.3	16.3	15.4	14.4	13.5	12.6	11.7	10.8	9.93	9.07	8.22	7.40	6.60	5.83	5.10
	.810	1.59	2.34	3.05	3.71	4.32	4.87	5.36	5.76	6.08	6.31	6.42	6.42	6.30	6.06
18.4	17.5	16.5	15.6	14.6	13.7	12.8	11.9	11.0	10.1	9.26	8.41	7.58	6.78	6.00	5.26
	.811	1.59	2.34	3.06	3.73	4.34	4.90	5.39	5.81	6.14	6.38	6.51	6.52	6.42	6.20
18.6	17.7	16.7	15.8	14.8	13.9	13.0	12.1	11.2	10.3	9.44	8.59	7.76	6.95	6.17	5.42
	.813	1.60	2.35	3.07	3.74	4.36	4.93	5.43	5.86	6.20	6.45	6.59	6.62	6.54	6.33
18.8	17.9	16.9	16.0	15.0	14.1	13.2	12.3	11.4	10.5	9.63	8.78	7.94	7.13	6.34	5.59
	.815	1.60	2.36	3.08	3.75	4.38	4.96	5.46	5.90	6.25	6.51	6.67	6.72	6.65	6.47
19.0	18.0	17.1	16.2	15.2	14.3	13.4	12.5	11.6	10.7	9.82	8.96	8.12	7.31	6.52	5.75
	.817	1.61	2.36	3.09	3.77	4.40	4.98	5.50	5.94	6.30	6.58	6.75	6.82	6.77	6.60
19.2	18.2	17.3	16.4	15.4	14.5	13.6	12.7	11.8	10.9	10.0	9.15	8.30	7.48	6.69	5.92
	.818	1.61	2.37	3.10	3.78	4.42	5.01	5.53	5.98	6.36	6.64	6.83	6.91	6.88	6.72
19.4	18.4	17.5	16.6	15.6	14.7	13.8	12.9	12.0	11.1	10.2	9.33	8.49	7.66	6.86	6.09
	.820	1.61	2.38	3.11	3.80	4.44	5.03	5.56	6.02	6.41	6.71	6.91	7.00	6.98	6.85
19.6	18.6	17.7	16.8	15.8	14.9	14.0	13.1	12.2	11.3	10.4	9.52	8.67	7.84	7.04	6.26
	.821	1.62	2.38	3.12	3.81	4.46	5.06	5.59	6.06	6.46	6.77	6.98	7.09	7.09	6.97
19.8	18.8	17.9	17.0	16.0	15.1	14.2	13.3	12.3	11.5	10.6	9.70	8.85	8.02	7.21	6.43
	.823	1.62	2.39	3.13	3.82	4.48	5.08	5.62	6.10	6.51	6.83	7.05	7.18	7.19	7.09
20.0	19.0	18.1	17.2	16.2	15.3	14.4	13.4	12.5	11.6	10.8	9.89	9.04	8.20	7.39	6.60
	.825	1.62	2.40	3.13	3.84	4.49	5.10	5.65	6.14	6.55	6.89	7.12	7.26	7.29	7.21
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

N

R em Erl

D

A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
15.2	2.29	1.81	1.39	1.03	.747	.522	.352	.229	.144	.087	.051	.028	.015	.008	.004
	3.26	2.70	2.14	1.62	1.18	.811	.533	.333	.199	.114	.062	.033	.017	.008	.004
15.4	2.42	1.92	1.48	1.11	.813	.574	.391	.258	.164	.100	.059	.034	.018	.010	.005
	3.43	2.86	2.29	1.76	1.29	.902	.601	.382	.231	.134	.075	.040	.021	.010	.005
15.6	2.54	2.03	1.58	1.20	.882	.629	.433	.289	.185	.115	.069	.040	.022	.012	.006
	3.59	3.03	2.45	1.90	1.41	1.00	.675	.435	.267	.157	.089	.048	.025	.013	.006
15.8	2.67	2.15	1.68	1.29	.955	.687	.478	.322	.209	.131	.079	.046	.026	.014	.007
	3.76	3.20	2.61	2.05	1.54	1.10	.756	.493	.307	.183	.105	.058	.030	.016	.008
16.0	2.80	2.27	1.79	1.38	1.03	.748	.526	.358	.235	.149	.091	.054	.031	.017	.009
	3.93	3.36	2.78	2.20	1.67	1.21	.842	.557	.352	.213	.123	.069	.037	.019	.010
16.2	2.94	2.39	1.90	1.47	1.11	.813	.577	.397	.263	.169	.105	.063	.036	.020	.011
	4.09	3.53	2.94	2.36	1.81	1.33	.935	.627	.402	.246	.144	.081	.044	.023	.012
16.4	3.08	2.51	2.01	1.57	1.19	.881	.632	.438	.294	.191	.119	.072	.042	.024	.013
	4.26	3.71	3.11	2.52	1.95	1.45	1.03	.702	.456	.283	.168	.096	.053	.028	.014
16.6	3.22	2.64	2.12	1.67	1.28	.953	.689	.483	.327	.215	.136	.083	.049	.028	.016
	4.43	3.88	3.28	2.68	2.10	1.58	1.14	.784	.515	.324	.196	.113	.063	.034	.018
16.8	3.36	2.77	2.24	1.77	1.37	1.03	.749	.530	.363	.240	.154	.095	.057	.033	.018
	4.59	4.05	3.46	2.85	2.26	1.72	1.25	.871	.580	.370	.226	.133	.075	.041	.021
17.0	3.50	2.90	2.36	1.88	1.46	1.10	.813	.580	.401	.269	.174	.109	.066	.038	.022
	4.75	4.22	3.63	3.02	2.41	1.86	1.37	.965	.651	.421	.260	.155	.088	.049	.026
17.2	3.64	3.04	2.48	1.99	1.55	1.19	.880	.634	.442	.299	.196	.124	.076	.045	.026
	4.92	4.39	3.81	3.19	2.58	2.00	1.49	1.06	.727	.476	.298	.179	.104	.058	.031
17.4	3.79	3.17	2.61	2.10	1.65	1.27	.950	.690	.486	.332	.219	.140	.087	.052	.030
	5.08	4.57	3.98	3.36	2.74	2.15	1.62	1.17	.810	.536	.341	.207	.122	.069	.037
17.6	3.94	3.31	2.73	2.21	1.75	1.36	1.02	.749	.533	.367	.245	.158	.099	.060	.035
	5.24	4.74	4.16	3.54	2.91	2.31	1.76	1.28	.898	.602	.387	.239	.142	.081	.045
17.8	4.09	3.45	2.86	2.33	1.86	1.45	1.10	.812	.582	.405	.273	.178	.113	.069	.041
	5.40	4.91	4.34	3.72	3.09	2.47	1.90	1.40	.993	.674	.439	.274	.164	.095	.053
18.0	4.24	3.59	3.00	2.45	1.97	1.54	1.18	.877	.635	.446	.303	.200	.128	.079	.047
	5.55	5.08	4.52	3.90	3.26	2.63	2.04	1.53	1.09	.751	.495	.313	.190	.111	.063
18.2	4.40	3.74	3.13	2.57	2.08	1.64	1.26	.946	.690	.489	.336	.224	.144	.090	.054
	5.71	5.24	4.69	4.08	3.44	2.80	2.20	1.66	1.20	.834	.556	.356	.219	.130	.074
18.4	4.55	3.89	3.27	2.70	2.19	1.74	1.35	1.02	.748	.535	.371	.249	.162	.102	.063
	5.86	5.41	4.87	4.27	3.62	2.97	2.35	1.79	1.31	.924	.623	.404	.251	.151	.087
18.6	4.71	4.03	3.41	2.83	2.30	1.84	1.43	1.09	.809	.583	.408	.277	.182	.116	.072
	6.01	5.58	5.05	4.45	3.80	3.15	2.52	1.94	1.43	1.02	.695	.456	.287	.174	.102
18.8	4.87	4.18	3.55	2.96	2.42	1.94	1.53	1.17	.874	.635	.448	.307	.204	.131	.082
	6.16	5.74	5.23	4.63	3.99	3.33	2.68	2.08	1.56	1.12	.773	.513	.327	.200	.119
19.0	5.03	4.34	3.69	3.09	2.54	2.05	1.62	1.25	.941	.689	.491	.339	.227	.148	.093
	6.31	5.90	5.40	4.81	4.17	3.51	2.85	2.24	1.69	1.23	.857	.575	.371	.230	.138
19.2	5.19	4.49	3.83	3.22	2.66	2.16	1.72	1.33	1.01	.746	.536	.374	.253	.166	.106
	6.45	6.07	5.57	5.00	4.36	3.69	3.03	2.40	1.83	1.34	.947	.642	.419	.263	.159
19.4	5.35	4.64	3.98	3.36	2.79	2.27	1.82	1.42	1.08	.807	.584	.411	.280	.186	.119
	6.59	6.22	5.75	5.18	4.55	3.88	3.20	2.56	1.97	1.46	1.04	.715	.472	.300	.183
19.6	5.51	4.80	4.13	3.50	2.92	2.39	1.92	1.51	1.16	.870	.634	.450	.310	.207	.134
	6.73	6.38	5.92	5.36	4.74	4.07	3.39	2.73	2.12	1.59	1.15	.794	.530	.340	.210
19.8	5.68	4.96	4.27	3.64	3.05	2.51	2.03	1.60	1.24	.936	.688	.492	.342	.231	.151
	6.87	6.54	6.09	5.54	4.93	4.26	3.57	2.90	2.27	1.72	1.25	.878	.592	.385	.241
20.0	5.84	5.11	4.43	3.78	3.18	2.63	2.13	1.70	1.32	1.00	.744	.536	.376	.256	.169
	7.01	6.69	6.26	5.73	5.11	4.45	3.76	3.08	2.43	1.86	1.37	.969	.660	.434	.274
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

N

A em Erl	N 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
15.2	.002	.001													
	.002	.001													
15.4	.002	.001	.001												
	.002	.001	.000												
15.6	.003	.002	.001												
	.003	.001	.001												
15.8	.004	.002	.001												
	.004	.002	.001												
16.0	.005	.002	.001	.001											
	.005	.002	.001	.000											
16.2	.006	.003	.001	.001											
	.006	.003	.001	.001											
16.4	.007	.004	.002	.001											
	.007	.003	.002	.001											
16.6	.008	.004	.002	.001	.001										
	.009	.004	.002	.001	.000										
16.8	.010	.005	.003	.001	.001										
	.011	.005	.003	.001	.001										
17.0	.012	.006	.003	.002	.001										
	.013	.007	.003	.002	.001										
17.2	.014	.008	.004	.002	.001										
	.016	.008	.004	.002	.001										
17.4	.017	.009	.005	.002	.001	.001									
	.020	.010	.005	.002	.001	.001									
17.6	.020	.011	.006	.003	.002	.001									
	.024	.012	.006	.003	.001	.001									
17.8	.023	.013	.007	.004	.002	.001									
	.029	.015	.008	.004	.002	.001									
18.0	.027	.015	.008	.004	.002	.001	.001								
	.034	.018	.009	.005	.002	.001	.000								
18.2	.032	.018	.010	.005	.003	.001	.001								
	.041	.022	.011	.006	.003	.001	.001								
18.4	.037	.021	.012	.006	.003	.002	.001								
	.049	.026	.014	.007	.004	.002	.001								
18.6	.043	.025	.014	.008	.004	.002	.001	.001							
	.058	.032	.017	.009	.004	.002	.001	.000							
18.8	.050	.029	.017	.009	.005	.003	.001	.001							
	.068	.038	.020	.011	.005	.003	.001	.001							
19.0	.057	.034	.019	.011	.006	.003	.002	.001							
	.080	.045	.024	.013	.007	.003	.002	.001							
19.2	.065	.039	.023	.013	.007	.004	.002	.001							
	.093	.053	.029	.015	.008	.004	.002	.001							
19.4	.074	.045	.026	.015	.008	.004	.002	.001	.001						
	.108	.062	.034	.018	.010	.005	.002	.001	.001						
19.6	.085	.052	.031	.018	.010	.005	.003	.001	.001						
	.126	.073	.041	.022	.012	.006	.003	.001	.001						
19.8	.096	.059	.035	.021	.012	.006	.003	.002	.001						
	.145	.085	.048	.026	.014	.007	.004	.002	.001						
20.0	.109	.068	.041	.024	.014	.008	.004	.002	.001	.001					
	.167	.099	.057	.031	.017	.009	.005	.002	.001	.001					
A	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
							N								

A em Erl	N 46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
15.2															
15.4															
15.6															
15.8															
16.0															
16.2															
16.4															
16.6															
16.8															
17.0															
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17.8															
18.0															
18.2															
18.4															
18.6															
18.8															
19.0															
19.2															
19.4															
19.6															
19.8															
20.0															
A	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
							N								

R em Erl
D

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
20.2	19.2	18.3	17.4	16.4	15.5	14.6	13.6	12.7	11.8	10.9	10.1	9.22	8.38	7.56	6.77
	.826	1.63	2.40	3.14	3.85	4.51	5.12	5.68	6.18	6.60	6.94	7.19	7.35	7.39	7.33
20.4	19.4	18.5	17.6	16.6	15.7	14.8	13.8	12.9	12.0	11.1	10.3	9.40	8.56	7.74	6.94
	.828	1.63	2.41	3.15	3.86	4.53	5.15	5.71	6.21	6.65	7.00	7.26	7.43	7.49	7.44
20.6	19.6	18.7	17.8	16.8	15.9	15.0	14.0	13.1	12.2	11.3	10.5	9.59	8.74	7.92	7.12
	.829	1.63	2.41	3.16	3.87	4.54	5.17	5.74	6.25	6.69	7.05	7.33	7.51	7.59	7.55
20.8	19.8	18.9	18.0	17.0	16.1	15.1	14.2	13.3	12.4	11.5	10.6	9.78	8.93	8.10	7.29
	.831	1.64	2.42	3.17	3.88	4.56	5.19	5.77	6.28	6.73	7.11	7.40	7.59	7.68	7.66
21.0	20.0	19.1	18.1	17.2	16.3	15.3	14.4	13.5	12.6	11.7	10.8	9.96	9.11	8.28	7.47
	.832	1.64	2.42	3.18	3.90	4.58	5.21	5.79	6.32	6.78	7.16	7.46	7.67	7.77	7.77
21.2	20.2	19.3	18.3	17.4	16.5	15.5	14.6	13.7	12.8	11.9	11.0	10.1	9.29	8.46	7.64
	.833	1.64	2.43	3.19	3.91	4.59	5.23	5.82	6.35	6.82	7.21	7.52	7.74	7.86	7.88
21.4	20.4	19.5	18.5	17.6	16.7	15.7	14.8	13.9	13.0	12.1	11.2	10.3	9.48	8.64	7.82
	.835	1.65	2.43	3.19	3.92	4.61	5.25	5.85	6.38	6.86	7.26	7.58	7.82	7.95	7.98
21.6	20.6	19.7	18.7	17.8	16.9	15.9	15.0	14.1	13.2	12.3	11.4	10.5	9.66	8.82	8.00
	.836	1.65	2.44	3.20	3.93	4.62	5.27	5.87	6.42	6.90	7.31	7.64	7.89	8.04	8.08
21.8	20.8	19.9	18.9	18.0	17.1	16.1	15.2	14.3	13.4	12.5	11.6	10.7	9.85	9.00	8.18
	.837	1.65	2.45	3.21	3.94	4.64	5.29	5.89	6.45	6.94	7.36	7.70	7.96	8.12	8.18
22.0	21.0	20.1	19.1	18.2	17.3	16.3	15.4	14.5	13.6	12.7	11.8	10.9	10.0	9.18	8.35
	.839	1.66	2.45	3.22	3.95	4.65	5.31	5.92	6.48	6.97	7.40	7.76	8.03	8.20	8.28
22.2	21.2	20.3	19.3	18.4	17.5	16.5	15.6	14.7	13.8	12.9	12.0	11.1	10.2	9.37	8.53
	.840	1.66	2.45	3.22	3.96	4.66	5.33	5.94	6.51	7.01	7.45	7.81	8.09	8.28	8.37
22.4	21.4	20.5	19.5	18.6	17.7	16.7	15.8	14.9	14.0	13.0	12.2	11.3	10.4	9.55	8.71
	.841	1.66	2.46	3.23	3.97	4.68	5.34	5.97	6.54	7.05	7.50	7.87	8.16	8.36	8.47
22.6	21.6	20.7	19.7	18.8	17.9	16.9	16.0	15.1	14.1	13.2	12.3	11.5	10.6	9.73	8.89
	.842	1.66	2.46	3.24	3.98	4.69	5.36	5.99	6.56	7.08	7.54	7.92	8.23	8.44	8.56
22.8	21.8	20.9	19.9	19.0	18.0	17.1	16.2	15.3	14.3	13.4	12.5	11.6	10.8	9.92	9.07
	.844	1.67	2.47	3.24	3.99	4.70	5.38	6.01	6.59	7.12	7.58	7.98	8.29	8.52	8.65
23.0	22.0	21.1	20.1	19.2	18.2	17.3	16.4	15.5	14.5	13.6	12.7	11.8	11.0	10.1	9.26
	.845	1.67	2.47	3.25	4.00	4.72	5.40	6.03	6.62	7.15	7.62	8.03	8.35	8.59	8.73
23.2	22.2	21.3	20.3	19.4	18.4	17.5	16.6	15.6	14.7	13.8	12.9	12.0	11.1	10.3	9.44
	.846	1.67	2.48	3.26	4.01	4.73	5.41	6.05	6.65	7.19	7.67	8.08	8.41	8.66	8.82
23.4	22.4	21.5	20.5	19.6	18.6	17.7	16.8	15.8	14.9	14.0	13.1	12.2	11.3	10.5	9.62
	.847	1.68	2.48	3.26	4.02	4.74	5.43	6.07	6.67	7.22	7.71	8.13	8.47	8.73	8.90
23.6	22.6	21.7	20.7	19.8	18.8	17.9	17.0	16.0	15.1	14.2	13.3	12.4	11.5	10.7	9.80
	.848	1.68	2.49	3.27	4.03	4.75	5.44	6.09	6.70	7.25	7.75	8.17	8.53	8.80	8.99
23.8	22.8	21.9	20.9	20.0	19.0	18.1	17.2	16.2	15.3	14.4	13.5	12.6	11.7	10.8	9.98
	.850	1.68	2.49	3.28	4.04	4.77	5.46	6.11	6.72	7.28	7.78	8.22	8.59	8.87	9.07
24.0	23.0	22.1	21.1	20.2	19.2	18.3	17.4	16.4	15.5	14.6	13.7	12.8	11.9	11.0	10.2
	.851	1.68	2.50	3.28	4.05	4.78	5.48	6.13	6.75	7.31	7.82	8.27	8.64	8.94	9.15
24.2	23.2	22.3	21.3	20.4	19.4	18.5	17.6	16.6	15.7	14.8	13.9	13.0	12.1	11.2	10.4
	.852	1.69	2.50	3.29	4.05	4.79	5.49	6.15	6.77	7.34	7.86	8.31	8.70	9.00	9.23
24.4	23.4	22.5	21.5	20.6	19.6	18.7	17.8	16.8	15.9	15.0	14.1	13.2	12.3	11.4	10.5
	.853	1.69	2.50	3.30	4.06	4.80	5.51	6.17	6.80	7.37	7.90	8.36	8.75	9.07	9.30
24.6	23.6	22.7	21.7	20.8	19.8	18.9	17.9	17.0	16.1	15.2	14.3	13.4	12.5	11.6	10.7
	.854	1.69	2.51	3.30	4.07	4.81	5.52	6.19	6.82	7.40	7.93	8.40	8.80	9.13	9.38
24.8	23.8	22.9	21.9	21.0	20.0	19.1	18.1	17.2	16.3	15.4	14.5	13.5	12.7	11.8	10.9
	.855	1.69	2.51	3.31	4.08	4.82	5.53	6.21	6.84	7.43	7.97	8.44	8.86	9.19	9.45
25.0	24.0	23.1	22.1	21.2	20.2	19.3	18.3	17.4	16.5	15.6	14.6	13.7	12.8	12.0	11.1
	.856	1.70	2.52	3.31	4.09	4.83	5.55	6.23	6.87	7.46	8.00	8.49	8.91	9.25	9.52
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

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A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
20.2	6.01	5.27	4.58	3.92	3.31	2.75	2.25	1.80	1.41	1.08	.803	.583	.412	.283	.189
	7.14	6.84	6.42	5.91	5.30	4.64	3.95	3.26	2.60	2.00	1.49	1.07	.734	.487	.312
20.4	6.17	5.44	4.73	4.07	3.45	2.88	2.36	1.90	1.49	1.15	.865	.633	.451	.312	.210
	7.27	6.99	6.59	6.08	5.49	4.83	4.14	3.44	2.77	2.15	1.62	1.17	.813	.545	.353
20.6	6.34	5.60	4.89	4.21	3.59	3.00	2.47	2.00	1.59	1.23	.930	.686	.492	.344	.233
	7.40	7.13	6.75	6.26	5.68	5.03	4.33	3.63	2.94	2.31	1.75	1.28	.898	.609	.398
20.8	6.51	5.76	5.04	4.36	3.72	3.13	2.59	2.11	1.68	1.31	.997	.741	.536	.378	.259
	7.53	7.28	6.91	6.44	5.87	5.22	4.53	3.82	3.12	2.47	1.89	1.39	.989	.677	.447
21.0	6.68	5.93	5.20	4.51	3.87	3.27	2.71	2.22	1.78	1.39	1.07	.799	.582	.413	.285
	7.65	7.42	7.07	6.61	6.05	5.42	4.72	4.01	3.30	2.64	2.03	1.51	1.09	.751	.501
21.2	6.85	6.09	5.36	4.66	4.01	3.40	2.84	2.33	1.87	1.48	1.14	.859	.631	.452	.314
	7.78	7.56	7.23	6.78	6.24	5.61	4.92	4.21	3.49	2.81	2.18	1.64	1.19	.831	.560
21.4	7.03	6.26	5.52	4.82	4.15	3.53	2.96	2.44	1.98	1.57	1.22	.923	.683	.492	.346
	7.90	7.70	7.38	6.95	6.42	5.80	5.12	4.40	3.68	2.98	2.34	1.77	1.30	.916	.624
21.6	7.20	6.43	5.68	4.97	4.30	3.67	3.09	2.56	2.08	1.66	1.30	.989	.737	.535	.379
	8.01	7.83	7.53	7.12	6.60	6.00	5.32	4.60	3.87	3.16	2.50	1.91	1.41	1.01	.693
21.8	7.37	6.59	5.85	5.13	4.45	3.81	3.22	2.68	2.19	1.75	1.38	1.06	.794	.581	.414
	8.13	7.96	7.68	7.29	6.78	6.19	5.52	4.80	4.07	3.35	2.67	2.06	1.53	1.10	.768
22.0	7.55	6.76	6.01	5.29	4.60	3.95	3.35	2.80	2.30	1.85	1.46	1.13	.854	.629	.452
	8.24	8.09	7.83	7.45	6.96	6.38	5.72	5.00	4.26	3.53	2.84	2.21	1.66	1.21	.847
22.2	7.72	6.93	6.17	5.44	4.75	4.10	3.48	2.92	2.41	1.95	1.55	1.20	.916	.680	.492
	8.35	8.22	7.97	7.61	7.14	6.57	5.92	5.21	4.47	3.73	3.02	2.37	1.80	1.32	.933
22.4	7.90	7.11	6.34	5.60	4.90	4.24	3.62	3.05	2.52	2.05	1.64	1.28	.981	.733	.534
	8.46	8.35	8.12	7.77	7.31	6.76	6.11	5.41	4.67	3.92	3.20	2.53	1.94	1.43	1.02
22.6	8.07	7.28	6.51	5.77	5.06	4.39	3.76	3.17	2.64	2.16	1.73	1.36	1.05	.789	.579
	8.57	8.47	8.26	7.93	7.49	6.94	6.31	5.61	4.87	4.12	3.38	2.70	2.08	1.55	1.12
22.8	8.25	7.45	6.67	5.93	5.21	4.53	3.90	3.30	2.76	2.27	1.83	1.45	1.12	.847	.626
	8.67	8.59	8.40	8.08	7.66	7.13	6.51	5.82	5.08	4.32	3.57	2.87	2.23	1.68	1.23
23.0	8.43	7.62	6.84	6.09	5.37	4.68	4.04	3.43	2.88	2.38	1.93	1.53	1.19	.908	.676
	8.78	8.71	8.53	8.24	7.83	7.31	6.71	6.02	5.28	4.52	3.77	3.05	2.39	1.82	1.33
23.2	8.61	7.80	7.01	6.25	5.53	4.83	4.18	3.57	3.00	2.49	2.03	1.62	1.27	.972	.728
	8.88	8.83	8.67	8.39	8.00	7.50	6.90	6.22	5.49	4.73	3.96	3.23	2.55	1.96	1.45
23.4	8.79	7.97	7.18	6.42	5.69	4.99	4.32	3.70	3.13	2.60	2.13	1.71	1.35	1.04	.783
	8.98	8.94	8.80	8.54	8.16	7.68	7.10	6.43	5.70	4.93	4.16	3.42	2.72	2.10	1.57
23.6	8.97	8.15	7.35	6.59	5.85	5.14	4.47	3.84	3.25	2.72	2.23	1.80	1.43	1.11	.840
	9.07	9.05	8.93	8.68	8.33	7.86	7.29	6.63	5.91	5.14	4.37	3.61	2.90	2.25	1.70
23.8	9.15	8.32	7.53	6.75	6.01	5.29	4.62	3.98	3.38	2.84	2.34	1.90	1.51	1.18	.900
	9.17	9.17	9.05	8.83	8.49	8.03	7.48	6.83	6.12	5.35	4.57	3.80	3.08	2.41	1.83
24.0	9.33	8.50	7.70	6.92	6.17	5.45	4.77	4.12	3.52	2.96	2.45	2.00	1.60	1.25	.963
	9.26	9.27	9.18	8.97	8.64	8.21	7.67	7.03	6.33	5.57	4.78	4.00	3.26	2.58	1.97
24.2	9.51	8.68	7.87	7.09	6.33	5.61	4.92	4.26	3.65	3.08	2.56	2.10	1.69	1.33	1.03
	9.35	9.38	9.30	9.11	8.80	8.38	7.86	7.23	6.53	5.78	4.99	4.20	3.45	2.75	2.12
24.4	9.69	8.86	8.05	7.26	6.50	5.77	5.07	4.40	3.78	3.21	2.68	2.20	1.78	1.41	1.10
	9.44	9.48	9.42	9.24	8.95	8.55	8.04	7.43	6.74	5.99	5.20	4.41	3.64	2.92	2.27
24.6	9.87	9.04	8.22	7.43	6.66	5.93	5.22	4.55	3.92	3.33	2.80	2.31	1.87	1.49	1.17
	9.53	9.59	9.54	9.38	9.11	8.72	8.23	7.63	6.95	6.20	5.42	4.62	3.84	3.10	2.43
24.8	10.1	9.22	8.40	7.60	6.83	6.09	5.37	4.70	4.06	3.46	2.92	2.42	1.97	1.58	1.24
	9.62	9.69	9.65	9.51	9.26	8.89	8.41	7.83	7.16	6.42	5.63	4.83	4.04	3.28	2.60
25.0	10.2	9.40	8.57	7.77	7.00	6.25	5.53	4.85	4.20	3.60	3.04	2.53	2.07	1.67	1.32
	9.70	9.79	9.77	9.64	9.40	9.05	8.59	8.02	7.36	6.63	5.85	5.04	4.24	3.47	2.76
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

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R em Erl

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A em Erl	N 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
20.2	**.122**	**.077**	**.047**	**.028**	**.016**	**.009**	**.005**	**.003**	**.001**	**.001**					
	.192	.115	.066	.037	.020	.011	.006	.003	.001	.001					
20.4	**.137**	**.087**	**.054**	**.032**	**.019**	**.011**	**.006**	**.003**	**.002**	**.001**					
	.220	.133	.077	.044	.024	.013	.007	.003	.002	.001					
20.6	**.154**	**.099**	**.061**	**.037**	**.022**	**.012**	**.007**	**.004**	**.002**	**.001**	**.001**				
	.251	.153	.090	.052	.029	.016	.008	.004	.002	.001	.000				
20.8	**.172**	**.111**	**.070**	**.043**	**.025**	**.015**	**.008**	**.004**	**.002**	**.001**	**.001**				
	.285	.176	.105	.060	.034	.019	.010	.005	.003	.001	.001				
21.0	**.192**	**.125**	**.079**	**.049**	**.029**	**.017**	**.010**	**.005**	**.003**	**.002**	**.001**				
	.323	.201	.121	.071	.040	.022	.012	.006	.003	.002	.001				
21.2	**.213**	**.140**	**.090**	**.056**	**.034**	**.020**	**.011**	**.006**	**.003**	**.002**	**.001**				
	.364	.229	.139	.082	.047	.026	.014	.008	.004	.002	.001				
21.4	**.236**	**.157**	**.101**	**.063**	**.039**	**.023**	**.013**	**.007**	**.004**	**.002**	**.001**	**.001**			
	.410	.261	.160	.095	.055	.031	.017	.009	.005	.002	.001	.001			
21.6	**.261**	**.175**	**.114**	**.072**	**.044**	**.027**	**.015**	**.009**	**.005**	**.003**	**.001**	**.001**			
	.460	.295	.183	.110	.064	.036	.020	.011	.006	.003	.001	.001			
21.8	**.287**	**.194**	**.127**	**.081**	**.051**	**.031**	**.018**	**.010**	**.006**	**.003**	**.002**	**.001**			
	.515	.334	.209	.127	.075	.043	.024	.013	.007	.004	.002	.001			
22.0	**.316**	**.215**	**.142**	**.092**	**.058**	**.035**	**.021**	**.012**	**.007**	**.004**	**.002**	**.001**	**.001**		
	.574	.376	.238	.146	.087	.050	.028	.015	.008	.004	.002	.001	.001		
22.2	**.347**	**.238**	**.159**	**.103**	**.065**	**.040**	**.024**	**.014**	**.008**	**.004**	**.002**	**.001**	**.001**		
	.638	.422	.270	.167	.100	.059	.033	.018	.010	.005	.003	.001	.001		
22.4	**.379**	**.262**	**.177**	**.116**	**.074**	**.046**	**.028**	**.016**	**.009**	**.005**	**.003**	**.002**	**.001**		
	.708	.472	.305	.191	.116	.068	.039	.022	.012	.006	.003	.002	.001		
22.6	**.414**	**.289**	**.196**	**.130**	**.083**	**.052**	**.032**	**.019**	**.011**	**.006**	**.003**	**.002**	**.001**		
	.782	.527	.344	.217	.133	.079	.046	.026	.014	.008	.004	.002	.001		
22.8	**.451**	**.317**	**.217**	**.145**	**.094**	**.059**	**.036**	**.022**	**.013**	**.007**	**.004**	**.002**	**.001**	**.001**	
	.863	.587	.386	.246	.152	.091	.053	.030	.017	.009	.005	.002	.001	.001	
23.0	**.491**	**.347**	**.240**	**.161**	**.105**	**.067**	**.042**	**.025**	**.015**	**.009**	**.005**	**.003**	**.001**	**.001**	
	.948	.652	.433	.279	.174	.105	.062	.035	.020	.011	.006	.003	.002	.001	
23.2	**.532**	**.380**	**.264**	**.179**	**.118**	**.076**	**.047**	**.029**	**.017**	**.010**	**.006**	**.003**	**.002**	**.001**	
	1.04	.721	.484	.314	.198	.121	.072	.041	.023	.013	.007	.004	.002	.001	
23.4	**.576**	**.414**	**.290**	**.198**	**.132**	**.085**	**.054**	**.033**	**.020**	**.012**	**.007**	**.004**	**.002**	**.001**	**.001**
	1.14	.796	.539	.353	.224	.138	.083	.048	.028	.015	.008	.004	.002	.001	.001
23.6	**.623**	**.451**	**.318**	**.219**	**.146**	**.096**	**.061**	**.038**	**.023**	**.013**	**.008**	**.004**	**.002**	**.001**	**.001**
	1.24	.876	.599	.396	.254	.158	.096	.056	.032	.018	.010	.005	.003	.001	.001
23.8	**.672**	**.489**	**.348**	**.241**	**.163**	**.107**	**.069**	**.043**	**.026**	**.016**	**.009**	**.005**	**.003**	**.002**	**.001**
	1.35	.962	.664	.443	.287	.180	.110	.065	.038	.021	.012	.006	.003	.002	.001
24.0	**.723**	**.530**	**.380**	**.265**	**.180**	**.120**	**.077**	**.049**	**.030**	**.018**	**.011**	**.006**	**.003**	**.002**	**.001**
	1.47	1.05	.734	.494	.323	.205	.126	.075	.044	.025	.014	.008	.004	.002	.001
24.2	**.777**	**.574**	**.413**	**.291**	**.199**	**.133**	**.087**	**.055**	**.034**	**.021**	**.012**	**.007**	**.004**	**.002**	**.001**
	1.59	1.15	.809	.550	.362	.232	.144	.087	.051	.029	.016	.009	.005	.003	.001
24.4	**.833**	**.619**	**.449**	**.318**	**.220**	**.148**	**.097**	**.062**	**.039**	**.024**	**.014**	**.008**	**.005**	**.003**	**.001**
	1.72	1.26	.889	.610	.406	.262	.164	.100	.059	.034	.019	.011	.006	.003	.002
24.6	**.892**	**.667**	**.487**	**.348**	**.242**	**.164**	**.109**	**.070**	**.044**	**.027**	**.016**	**.010**	**.005**	**.003**	**.002**
	1.85	1.36	.975	.675	.453	.295	.186	.114	.068	.040	.023	.013	.007	.004	.002
24.8	**.953**	**.718**	**.528**	**.379**	**.266**	**.182**	**.121**	**.079**	**.050**	**.031**	**.019**	**.011**	**.006**	**.004**	**.002**
	1.99	1.48	1.07	.745	.504	.331	.211	.131	.079	.046	.027	.015	.008	.004	.002
25.0	**1.02**	**.770**	**.570**	**.412**	**.291**	**.201**	**.135**	**.088**	**.057**	**.035**	**.021**	**.013**	**.007**	**.004**	**.002**
	2.14	1.60	1.16	.820	.560	.371	.238	.149	.091	.054	.031	.018	.010	.005	.003
A	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

N

R em Erl

D

A em Erl	N 46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
20.2															
20.4															
20.6															
20.8															
21.0															
21.2															
21.4															
21.6															
21.8															
22.0															
22.2															
22.4															
22.6															
22.8															
23.0															
23.2															
23.4															
23.6															
23.8															
24.0	.001 .001														
24.2	.001 .001														
24.4	.001 .001														
24.6	.001 .001														
24.8	.001 .001	.001 .001													
25.0	.001 .001	.001 .001													
A	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

N

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
25.2	24.2	23.3	22.3	21.4	20.4	19.5	18.5	17.6	16.7	15.8	14.8	13.9	13.0	12.2	11.3
	.857	1.70	2.52	3.32	4.10	4.84	5.56	6.25	6.89	7.49	8.04	8.53	8.95	9.31	9.59
25.4	24.4	23.5	22.5	21.6	20.6	19.7	18.7	17.8	16.9	15.9	15.0	14.1	13.2	12.3	11.5
	.858	1.70	2.52	3.32	4.10	4.85	5.58	6.26	6.91	7.51	8.07	8.57	9.00	9.37	9.66
25.6	24.6	23.7	22.7	21.8	20.8	19.9	18.9	18.0	17.1	16.1	15.2	14.3	13.4	12.5	11.7
	.859	1.70	2.53	3.33	4.11	4.86	5.59	6.28	6.93	7.54	8.10	8.61	9.05	9.43	9.73
25.8	24.8	23.9	22.9	22.0	21.0	20.1	19.1	18.2	17.3	16.3	15.4	14.5	13.6	12.7	11.8
	.860	1.70	2.53	3.34	4.12	4.88	5.60	6.30	6.95	7.57	8.13	8.65	9.10	9.48	9.79
26.0	25.0	24.1	23.1	22.2	21.2	20.3	19.3	18.4	17.5	16.5	15.6	14.7	13.8	12.9	12.0
	.861	1.71	2.53	3.34	4.13	4.88	5.62	6.31	6.97	7.59	8.16	8.68	9.14	9.54	9.86
26.2	25.2	24.3	23.3	22.4	21.4	20.5	19.5	18.6	17.7	16.7	15.8	14.9	14.0	13.1	12.2
	.862	1.71	2.54	3.35	4.13	4.89	5.63	6.33	6.99	7.62	8.19	8.72	9.19	9.59	9.92
26.4	25.4	24.5	23.5	22.6	21.6	20.7	19.7	18.8	17.8	16.9	16.0	15.1	14.2	13.3	12.4
	.863	1.71	2.54	3.35	4.14	4.90	5.64	6.34	7.01	7.64	8.22	8.76	9.23	9.64	9.98
26.6	25.6	24.7	23.7	22.8	21.8	20.9	19.9	19.0	18.0	17.1	16.2	15.3	14.4	13.5	12.6
	.864	1.71	2.54	3.36	4.15	4.91	5.65	6.36	7.03	7.67	8.25	8.79	9.27	9.69	10.0
26.8	25.8	24.9	23.9	23.0	22.0	21.1	20.1	19.2	18.2	17.3	16.4	15.5	14.6	13.7	12.8
	.865	1.71	2.55	3.36	4.15	4.92	5.66	6.38	7.05	7.69	8.28	8.83	9.32	9.74	10.1
27.0	26.0	25.1	24.1	23.2	22.2	21.3	20.3	19.4	18.4	17.5	16.6	15.7	14.8	13.9	13.0
	.866	1.72	2.55	3.37	4.16	4.93	5.68	6.39	7.07	7.71	8.31	8.86	9.36	9.79	10.2
27.2	26.2	25.3	24.3	23.4	22.4	21.5	20.5	19.6	18.6	17.7	16.8	15.9	14.9	14.0	13.2
	.867	1.72	2.55	3.37	4.17	4.94	5.69	6.40	7.09	7.73	8.34	8.90	9.40	9.84	10.2
27.4	26.4	25.5	24.5	23.6	22.6	21.7	20.7	19.8	18.8	17.9	17.0	16.0	15.1	14.2	13.3
	.867	1.72	2.56	3.38	4.17	4.95	5.70	6.42	7.11	7.76	8.37	8.93	9.44	9.89	10.3
27.6	26.6	25.7	24.7	23.8	22.8	21.9	20.9	20.0	19.0	18.1	17.2	16.2	15.3	14.4	13.5
	.868	1.72	2.56	3.38	4.18	4.96	5.71	6.43	7.12	7.78	8.39	8.96	9.48	9.94	10.3
27.8	26.8	25.9	24.9	24.0	23.0	22.0	21.1	20.2	19.2	18.3	17.4	16.4	15.5	14.6	13.7
	.869	1.72	2.56	3.39	4.19	4.97	5.72	6.45	7.14	7.80	8.42	8.99	9.52	9.98	10.4
28.0	27.0	26.1	25.1	24.2	23.2	22.2	21.3	20.4	19.4	18.5	17.6	16.6	15.7	14.8	13.9
	.870	1.73	2.57	3.39	4.19	4.98	5.73	6.46	7.16	7.82	8.45	9.02	9.55	10.0	10.4
28.2	27.2	26.3	25.3	24.4	23.4	22.4	21.5	20.6	19.6	18.7	17.7	16.8	15.9	15.0	14.1
	.871	1.73	2.57	3.39	4.20	4.98	5.74	6.47	7.18	7.84	8.47	9.05	9.59	10.1	10.5
28.4	27.4	26.5	25.5	24.6	23.6	22.6	21.7	20.7	19.8	18.9	17.9	17.0	16.1	15.2	14.3
	.872	1.73	2.57	3.40	4.21	4.99	5.75	6.49	7.19	7.86	8.50	9.09	9.63	10.1	10.5
28.6	27.6	26.7	25.7	24.7	23.8	22.8	21.9	20.9	20.0	19.1	18.1	17.2	16.3	15.4	14.5
	.873	1.73	2.58	3.40	4.21	5.00	5.76	6.50	7.21	7.88	8.52	9.11	9.66	10.2	10.6
28.8	27.8	26.9	25.9	24.9	24.0	23.0	22.1	21.1	20.2	19.3	18.3	17.4	16.5	15.6	14.7
	.873	1.73	2.58	3.41	4.22	5.01	5.77	6.51	7.22	7.90	8.54	9.14	9.70	10.2	10.6
29.0	28.0	27.1	26.1	25.1	24.2	23.2	22.3	21.3	20.4	19.5	18.5	17.6	16.7	15.8	14.9
	.874	1.74	2.58	3.41	4.22	5.02	5.78	6.53	7.24	7.92	8.57	9.17	9.73	10.2	10.7
29.2	28.2	27.3	26.3	25.3	24.4	23.4	22.5	21.5	20.6	19.7	18.7	17.8	16.9	16.0	15.1
	.875	1.74	2.58	3.42	4.23	5.02	5.79	6.54	7.26	7.94	8.59	9.20	9.77	10.3	10.7
29.4	28.4	27.5	26.5	25.5	24.6	23.6	22.7	21.7	20.8	19.9	18.9	18.0	17.1	16.2	15.2
	.876	1.74	2.59	3.42	4.24	5.03	5.80	6.55	7.27	7.96	8.61	9.23	9.80	10.3	10.8
29.6	28.6	27.7	26.7	25.7	24.8	23.8	22.9	21.9	21.0	20.0	19.1	18.2	17.3	16.3	15.4
	.876	1.74	2.59	3.42	4.24	5.04	5.81	6.56	7.29	7.98	8.64	9.26	9.83	10.4	10.8
29.8	28.8	27.9	26.9	25.9	25.0	24.0	23.1	22.1	21.2	20.2	19.3	18.4	17.5	16.5	15.6
	.877	1.74	2.59	3.43	4.25	5.05	5.82	6.58	7.30	8.00	8.66	9.28	9.86	10.4	10.9
30.0	29.0	28.1	27.1	26.1	25.2	24.2	23.3	22.3	21.4	20.4	19.5	18.6	17.6	16.7	15.8
	.878	1.74	2.60	3.43	4.25	5.05	5.83	6.59	7.32	8.01	8.68	9.31	9.89	10.4	10.9
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	N														

A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
25.2	10.4	9.58	8.75	7.95	7.17	6.41	5.69	5.00	4.34	3.73	3.16	2.64	2.17	1.76	1.39
	9.78	9.88	9.88	9.77	9.55	9.21	8.77	8.21	7.57	6.85	6.07	5.26	4.45	3.67	2.94
25.4	10.6	9.76	8.93	8.12	7.33	6.57	5.84	5.15	4.48	3.86	3.29	2.76	2.28	1.85	1.47
	9.86	9.98	9.99	9.89	9.69	9.37	8.94	8.41	7.77	7.06	6.28	5.47	4.66	3.86	3.12
25.6	10.8	9.94	9.11	8.29	7.50	6.74	6.00	5.30	4.63	4.00	3.41	2.87	2.38	1.94	1.56
	9.94	10.1	10.1	10.0	9.83	9.53	9.12	8.59	7.97	7.27	6.50	5.69	4.87	4.07	3.30
25.8	11.0	10.1	9.28	8.47	7.68	6.91	6.16	5.45	4.78	4.14	3.54	2.99	2.49	2.04	1.64
	10.0	10.2	10.2	10.1	9.97	9.68	9.29	8.78	8.18	7.48	6.72	5.91	5.09	4.27	3.49
26.0	11.2	10.3	9.46	8.64	7.85	7.07	6.32	5.61	4.92	4.28	3.67	3.11	2.60	2.14	1.73
	10.1	10.2	10.3	10.3	10.1	9.83	9.46	8.97	8.38	7.69	6.94	6.13	5.31	4.48	3.69
26.2	11.3	10.5	9.64	8.82	8.02	7.24	6.49	5.76	5.07	4.42	3.81	3.24	2.72	2.24	1.82
	10.2	10.3	10.4	10.4	10.2	9.98	9.62	9.15	8.57	7.90	7.16	6.36	5.53	4.69	3.89
26.4	11.5	10.7	9.82	9.00	8.19	7.41	6.65	5.92	5.22	4.56	3.94	3.36	2.83	2.35	1.92
	10.2	10.4	10.5	10.5	10.4	10.1	9.79	9.33	8.77	8.11	7.37	6.58	5.75	4.91	4.09
26.6	11.7	10.9	10.0	9.17	8.37	7.58	6.81	6.08	5.38	4.71	4.08	3.49	2.95	2.45	2.01
	10.3	10.5	10.6	10.6	10.5	10.3	9.95	9.51	8.96	8.32	7.59	6.80	5.97	5.13	4.30
26.8	11.9	11.0	10.2	9.35	8.54	7.75	6.98	6.24	5.53	4.85	4.22	3.62	3.07	2.56	2.11
	10.4	10.6	10.7	10.7	10.6	10.4	10.1	9.69	9.15	8.52	7.81	7.02	6.19	5.35	4.51
27.0	12.1	11.2	10.4	9.53	8.71	7.92	7.15	6.40	5.68	5.00	4.36	3.75	3.19	2.68	2.21
	10.5	10.7	10.8	10.8	10.7	10.6	10.3	9.86	9.34	8.73	8.02	7.25	6.42	5.57	4.72
27.2	12.3	11.4	10.5	9.71	8.89	8.09	7.31	6.56	5.84	5.15	4.50	3.88	3.31	2.79	2.31
	10.5	10.7	10.9	10.9	10.9	10.7	10.4	10.0	9.53	8.93	8.24	7.47	6.65	5.79	4.94
27.4	12.5	11.6	10.7	9.89	9.07	8.26	7.48	6.72	6.00	5.30	4.64	4.02	3.44	2.90	2.42
	10.6	10.8	11.0	11.0	11.0	10.8	10.6	10.2	9.72	9.13	8.45	7.69	6.87	6.02	5.16
27.6	12.6	11.8	10.9	10.1	9.24	8.44	7.65	6.89	6.15	5.45	4.78	4.15	3.57	3.02	2.53
	10.7	10.9	11.1	11.1	11.1	11.0	10.7	10.4	9.90	9.33	8.66	7.91	7.10	6.25	5.38
27.8	12.8	12.0	11.1	10.3	9.42	8.61	7.82	7.05	6.31	5.61	4.93	4.29	3.70	3.14	2.64
	10.7	11.0	11.2	11.2	11.2	11.1	10.9	10.5	10.1	9.53	8.87	8.13	7.33	6.48	5.61
28.0	13.0	12.1	11.3	10.4	9.60	8.78	7.99	7.22	6.47	5.76	5.08	4.43	3.83	3.26	2.75
	10.8	11.1	11.2	11.3	11.3	11.2	11.0	10.7	10.3	9.72	9.08	8.35	7.56	6.71	5.84
28.2	13.2	12.3	11.5	10.6	9.78	8.96	8.16	7.38	6.64	5.91	5.23	4.57	3.96	3.39	2.86
	10.8	11.1	11.3	11.4	11.4	11.4	11.2	10.9	10.4	9.92	9.29	8.57	7.78	6.94	6.07
28.4	13.4	12.5	11.6	10.8	9.95	9.13	8.33	7.55	6.80	6.07	5.38	4.72	4.09	3.51	2.98
	10.9	11.2	11.4	11.5	11.6	11.5	11.3	11.0	10.6	10.1	9.50	8.79	8.01	7.17	6.30
28.6	13.6	12.7	11.8	11.0	10.1	9.31	8.50	7.72	6.96	6.23	5.53	4.86	4.23	3.64	3.10
	11.0	11.3	11.5	11.6	11.7	11.6	11.4	11.2	10.8	10.3	9.70	9.01	8.24	7.40	6.53
28.8	13.8	12.9	12.0	11.2	10.3	9.49	8.68	7.89	7.12	6.39	5.68	5.01	4.37	3.77	3.22
	11.0	11.3	11.6	11.7	11.8	11.7	11.6	11.3	11.0	10.5	9.90	9.22	8.46	7.63	6.76
29.0	14.0	13.1	12.2	11.3	10.5	9.66	8.85	8.06	7.29	6.55	5.83	5.15	4.51	3.90	3.34
	11.1	11.4	11.6	11.8	11.9	11.8	11.7	11.5	11.1	10.7	10.1	9.44	8.69	7.87	7.00
29.2	14.2	13.3	12.4	11.5	10.7	9.84	9.02	8.23	7.46	6.71	5.99	5.30	4.65	4.03	3.46
	11.1	11.5	11.7	11.9	12.0	12.0	11.8	11.6	11.3	10.8	10.3	9.65	8.91	8.10	7.23
29.4	14.3	13.5	12.6	11.7	10.9	10.0	9.20	8.40	7.62	6.87	6.14	5.45	4.79	4.17	3.59
	11.2	11.5	11.8	12.0	12.1	12.1	12.0	11.8	11.5	11.0	10.5	9.86	9.13	8.33	7.47
29.6	14.5	13.6	12.8	11.9	11.0	10.2	9.38	8.57	7.79	7.03	6.30	5.60	4.93	4.30	3.71
	11.2	11.6	11.9	12.1	12.2	12.2	12.1	11.9	11.6	11.2	10.7	10.1	9.35	8.56	7.70
29.8	14.7	13.8	12.9	12.1	11.2	10.4	9.55	8.74	7.96	7.20	6.46	5.75	5.08	4.44	3.84
	11.3	11.7	11.9	12.1	12.3	12.3	12.2	12.1	11.8	11.4	10.9	10.3	9.57	8.79	7.94
30.0	14.9	14.0	13.1	12.3	11.4	10.6	9.73	8.92	8.13	7.36	6.62	5.91	5.23	4.58	3.97
	11.4	11.7	12.0	12.2	12.4	12.4	12.3	12.2	11.9	11.6	11.1	10.5	9.79	9.02	8.18
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	N														

A em Erl \ N	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
25.2	**1.08**	**.826**	**.615**	**.448**	**.318**	**.221**	**.150**	**.099**	**.064**	**.040**	**.025**	**.015**	**.009**	**.005**	**.003**
	2.29	1.73	1.27	.901	.620	.414	.269	.169	.104	.062	.036	.021	.011	.006	.003
25.4	**1.15**	**.883**	**.662**	**.485**	**.347**	**.243**	**.166**	**.110**	**.072**	**.045**	**.028**	**.017**	**.010**	**.006**	**.003**
	2.45	1.86	1.38	.987	.685	.462	.302	.192	.119	.072	.042	.024	.014	.007	.004
25.6	**1.22**	**.944**	**.712**	**.525**	**.378**	**.266**	**.183**	**.123**	**.080**	**.051**	**.032**	**.019**	**.012**	**.007**	**.004**
	2.61	2.00	1.49	1.08	.755	.513	.339	.217	.135	.082	.049	.028	.016	.009	.005
25.8	**1.30**	**1.01**	**.764**	**.567**	**.411**	**.291**	**.202**	**.136**	**.090**	**.058**	**.036**	**.022**	**.013**	**.008**	**.004**
	2.78	2.15	1.61	1.18	.830	.569	.379	.245	.154	.094	.056	.033	.019	.010	.006
26.0	**1.38**	**1.07**	**.818**	**.611**	**.446**	**.318**	**.222**	**.151**	**.100**	**.065**	**.041**	**.025**	**.015**	**.009**	**.005**
	2.96	2.30	1.74	1.28	.911	.630	.422	.275	.175	.108	.065	.038	.022	.012	.007
26.2	**1.46**	**1.14**	**.874**	**.657**	**.483**	**.347**	**.243**	**.167**	**.111**	**.073**	**.046**	**.029**	**.018**	**.010**	**.006**
	3.14	2.46	1.88	1.39	.997	.695	.470	.309	.197	.123	.075	.044	.026	.014	.008
26.4	**1.54**	**1.21**	**.934**	**.706**	**.522**	**.377**	**.266**	**.184**	**.124**	**.081**	**.052**	**.033**	**.020**	**.012**	**.007**
	3.32	2.63	2.02	1.50	1.09	.765	.522	.346	.223	.140	.086	.051	.030	.017	.009
26.6	**1.62**	**1.28**	**.995**	**.756**	**.563**	**.409**	**.291**	**.202**	**.137**	**.091**	**.059**	**.037**	**.023**	**.014**	**.008**
	3.51	2.80	2.16	1.63	1.19	.840	.578	.386	.251	.159	.098	.059	.035	.020	.011
26.8	**1.71**	**1.36**	**1.06**	**.810**	**.606**	**.444**	**.318**	**.222**	**.152**	**.101**	**.066**	**.042**	**.026**	**.016**	**.009**
	3.71	2.97	2.32	1.75	1.29	.920	.638	.430	.282	.180	.112	.068	.040	.023	.013
27.0	**1.80**	**1.44**	**1.13**	**.865**	**.651**	**.480**	**.346**	**.243**	**.167**	**.113**	**.074**	**.047**	**.030**	**.018**	**.011**
	3.91	3.15	2.47	1.89	1.40	1.01	.703	.478	.315	.203	.127	.078	.046	.027	.015
27.2	**1.89**	**1.52**	**1.19**	**.923**	**.699**	**.518**	**.376**	**.266**	**.184**	**.125**	**.083**	**.053**	**.034**	**.021**	**.013**
	4.11	3.34	2.64	2.03	1.51	1.10	.773	.529	.352	.228	.144	.089	.053	.031	.018
27.4	**1.98**	**1.60**	**1.27**	**.984**	**.749**	**.559**	**.407**	**.291**	**.203**	**.138**	**.092**	**.060**	**.038**	**.024**	**.014**
	4.32	3.53	2.81	2.17	1.63	1.19	.848	.585	.393	.256	.163	.101	.061	.036	.021
27.6	**2.08**	**1.68**	**1.34**	**1.05**	**.801**	**.601**	**.441**	**.317**	**.222**	**.153**	**.102**	**.067**	**.043**	**.027**	**.017**
	4.53	3.73	2.98	2.32	1.76	1.30	.929	.646	.437	.287	.184	.115	.070	.042	.024
27.8	**2.18**	**1.77**	**1.42**	**1.11**	**.856**	**.646**	**.477**	**.345**	**.243**	**.168**	**.114**	**.075**	**.048**	**.031**	**.019**
	4.75	3.93	3.16	2.48	1.90	1.41	1.01	.711	.485	.321	.208	.131	.080	.048	.028
28.0	**2.28**	**1.86**	**1.50**	**1.18**	**.913**	**.693**	**.514**	**.374**	**.266**	**.185**	**.126**	**.084**	**.054**	**.035**	**.021**
	4.97	4.13	3.35	2.65	2.03	1.52	1.11	.781	.536	.359	.233	.148	.092	.056	.033
28.2	**2.38**	**1.95**	**1.58**	**1.25**	**.972**	**.742**	**.554**	**.405**	**.290**	**.203**	**.139**	**.093**	**.061**	**.039**	**.024**
	5.19	4.34	3.54	2.82	2.18	1.64	1.20	.856	.592	.399	.262	.167	.104	.064	.038
28.4	**2.49**	**2.05**	**1.66**	**1.32**	**1.03**	**.793**	**.596**	**.438**	**.316**	**.222**	**.153**	**.103**	**.068**	**.044**	**.028**
	5.42	4.55	3.74	2.99	2.33	1.77	1.30	.936	.653	.443	.293	.189	.119	.073	.044
28.6	**2.60**	**2.15**	**1.75**	**1.40**	**1.10**	**.846**	**.640**	**.473**	**.343**	**.243**	**.169**	**.114**	**.076**	**.049**	**.031**
	5.64	4.77	3.94	3.17	2.49	1.90	1.41	1.02	.718	.491	.327	.212	.134	.083	.050
28.8	**2.71**	**2.25**	**1.83**	**1.47**	**1.16**	**.902**	**.686**	**.510**	**.372**	**.265**	**.185**	**.126**	**.084**	**.055**	**.035**
	5.87	4.99	4.14	3.36	2.65	2.04	1.53	1.11	.788	.543	.364	.238	.152	.095	.058
29.0	**2.82**	**2.35**	**1.93**	**1.55**	**1.23**	**.961**	**.734**	**.549**	**.403**	**.289**	**.203**	**.140**	**.094**	**.062**	**.040**
	6.10	5.21	4.36	3.55	2.82	2.19	1.65	1.21	.862	.599	.405	.267	.171	.108	.066
29.2	**2.93**	**2.45**	**2.02**	**1.64**	**1.30**	**1.02**	**.784**	**.590**	**.435**	**.314**	**.222**	**.154**	**.104**	**.069**	**.045**
	6.34	5.44	4.57	3.75	3.00	2.34	1.77	1.31	.942	.659	.449	.298	.193	.122	.075
29.4	**3.05**	**2.56**	**2.11**	**1.72**	**1.38**	**1.08**	**.837**	**.633**	**.470**	**.341**	**.243**	**.169**	**.115**	**.077**	**.050**
	6.57	5.67	4.79	3.95	3.18	2.49	1.91	1.42	1.03	.724	.497	.332	.217	.138	.086
29.6	**3.17**	**2.67**	**2.21**	**1.81**	**1.45**	**1.15**	**.892**	**.679**	**.506**	**.370**	**.265**	**.185**	**.127**	**.085**	**.056**
	6.81	5.90	5.01	4.16	3.37	2.66	2.05	1.53	1.12	.793	.549	.370	.243	.156	.098
29.8	**3.29**	**2.78**	**2.31**	**1.90**	**1.53**	**1.22**	**.949**	**.726**	**.545**	**.400**	**.288**	**.203**	**.140**	**.095**	**.062**
	7.05	6.14	5.23	4.37	3.56	2.83	2.19	1.65	1.21	.868	.604	.410	.271	.175	.111
30.0	**3.41**	**2.89**	**2.41**	**1.99**	**1.61**	**1.29**	**1.01**	**.775**	**.585**	**.432**	**.313**	**.222**	**.154**	**.105**	**.070**
	7.29	6.37	5.46	4.58	3.75	3.00	2.34	1.78	1.32	.947	.665	.454	.303	.197	.125
A \ N	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

A em Erl \ N	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
25.2	**.002**	**.001**													
	.002	.001													
25.4	**.002**	**.001**	**.001**												
	.002	.001	.001												
25.6	**.002**	**.001**	**.001**												
	.003	.001	.001												
25.8	**.003**	**.001**	**.001**												
	.003	.002	.001												
26.0	**.003**	**.002**	**.001**												
	.004	.002	.001												
26.2	**.003**	**.002**	**.001**	**.001**											
	.004	.002	.001	.001											
26.4	**.004**	**.002**	**.001**	**.001**											
	.005	.003	.001	.001											
26.6	**.005**	**.003**	**.001**	**.001**											
	.006	.003	.002	.001											
26.8	**.006**	**.003**	**.002**	**.001**	**.001**										
	.007	.004	.002	.001	.001										
27.0	**.006**	**.004**	**.002**	**.001**	**.001**										
	.009	.005	.003	.001	.001										
27.2	**.007**	**.004**	**.002**	**.001**	**.001**										
	.010	.006	.003	.002	.001										
27.4	**.009**	**.005**	**.003**	**.002**	**.001**										
	.012	.007	.004	.002	.001										
27.6	**.010**	**.006**	**.003**	**.002**	**.001**	**.001**									
	.014	.008	.004	.002	.001	.001									
27.8	**.011**	**.007**	**.004**	**.002**	**.001**	**.001**									
	.016	.009	.005	.003	.001	.001									
28.0	**.013**	**.008**	**.005**	**.003**	**.001**	**.001**									
	.019	.011	.006	.003	.002	.001									
28.2	**.015**	**.009**	**.005**	**.003**	**.002**	**.001**	**.001**								
	.022	.013	.007	.004	.002	.001	.001								
28.4	**.017**	**.010**	**.006**	**.004**	**.002**	**.001**	**.001**								
	.026	.015	.008	.005	.003	.001	.001								
28.6	**.019**	**.012**	**.007**	**.004**	**.002**	**.001**	**.001**								
	.030	.017	.010	.005	.003	.002	.001								
28.8	**.022**	**.014**	**.008**	**.005**	**.003**	**.002**	**.001**								
	.034	.020	.011	.006	.004	.002	.001								
29.0	**.025**	**.015**	**.009**	**.006**	**.003**	**.002**	**.001**	**.001**							
	.040	.023	.013	.008	.004	.002	.001	.001							
29.2	**.028**	**.018**	**.011**	**.006**	**.004**	**.002**	**.001**	**.001**							
	.046	.027	.016	.009	.005	.003	.001	.001							
29.4	**.032**	**.020**	**.012**	**.007**	**.004**	**.002**	**.001**	**.001**							
	.052	.031	.018	.010	.006	.003	.002	.001							
29.6	**.036**	**.023**	**.014**	**.008**	**.005**	**.003**	**.002**	**.001**	**.001**						
	.060	.036	.021	.012	.007	.004	.002	.001	.001						
29.8	**.040**	**.026**	**.016**	**.010**	**.006**	**.003**	**.002**	**.001**	**.001**						
	.068	.041	.024	.014	.008	.005	.002	.001	.001						
30.0	**.045**	**.029**	**.018**	**.011**	**.007**	**.004**	**.002**	**.001**	**.001**						
	.078	.047	.028	.016	.009	.005	.003	.002	.001						
A \ N	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

R em Erl
D

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30.5	29.5	28.6	27.6	26.6	25.7	24.7	23.8	22.8	21.9	20.9	20.0	19.1	18.1	17.2	16.3
	.880	1.75	2.60	3.44	4.27	5.07	5.85	6.62	7.35	8.06	8.73	9.37	9.97	10.5	11.0
31.0	30.0	29.1	28.1	27.1	26.2	25.2	24.3	23.3	22.4	21.4	20.5	19.5	18.6	17.7	16.8
	.882	1.75	2.61	3.45	4.28	5.09	5.88	6.64	7.39	8.10	8.78	9.43	10.0	10.6	11.1
31.5	30.5	29.6	28.6	27.6	26.7	25.7	24.8	23.8	22.9	21.9	21.0	20.0	19.1	18.2	17.3
	.883	1.76	2.61	3.46	4.29	5.10	5.90	6.67	7.42	8.14	8.83	9.49	10.1	10.7	11.2
32.0	31.0	30.1	29.1	28.1	27.2	26.2	25.3	24.3	23.4	22.4	21.5	20.5	19.6	18.7	17.7
	.885	1.76	2.62	3.47	4.30	5.12	5.92	6.70	7.45	8.18	8.88	9.55	10.2	10.8	11.3
32.5	31.5	30.6	29.6	28.6	27.7	26.7	25.8	24.8	23.8	22.9	22.0	21.0	20.1	19.1	18.2
	.887	1.76	2.63	3.48	4.31	5.13	5.94	6.72	7.48	8.22	8.92	9.60	10.2	10.8	11.4
33.0	32.0	31.1	30.1	29.1	28.2	27.2	26.2	25.3	24.3	23.4	22.4	21.5	20.6	19.6	18.7
	.888	1.77	2.63	3.49	4.33	5.15	5.96	6.74	7.51	8.25	8.97	9.65	10.3	10.9	11.5
33.5	32.5	31.6	30.6	29.6	28.7	27.7	26.7	25.8	24.8	23.9	22.9	22.0	21.1	20.1	19.2
	.890	1.77	2.64	3.49	4.34	5.16	5.97	6.77	7.54	8.29	9.01	9.70	10.4	11.0	11.6
34.0	33.0	32.1	31.1	30.1	29.2	28.2	27.2	26.3	25.3	24.4	23.4	22.5	21.5	20.6	19.7
	.891	1.77	2.64	3.50	4.35	5.18	5.99	6.79	7.56	8.32	9.05	9.75	10.4	11.1	11.7
34.5	33.5	32.6	31.6	30.6	29.7	28.7	27.7	26.8	25.8	24.9	23.9	23.0	22.0	21.1	20.2
	.893	1.78	2.65	3.51	4.36	5.19	6.01	6.81	7.59	8.35	9.09	9.80	10.5	11.1	11.7
35.0	34.0	33.1	32.1	31.1	30.2	29.2	28.2	27.3	26.3	25.4	24.4	23.5	22.5	21.6	20.6
	.894	1.78	2.65	3.52	4.37	5.20	6.03	6.83	7.62	8.38	9.12	9.84	10.5	11.2	11.8
35.5	34.5	33.6	32.6	31.6	30.7	29.7	28.7	27.8	26.8	25.9	24.9	24.0	23.0	22.1	21.1
	.896	1.78	2.66	3.52	4.38	5.22	6.04	6.85	7.64	8.41	9.16	9.88	10.6	11.2	11.9
36.0	35.0	34.1	33.1	32.1	31.2	30.2	29.2	28.3	27.3	26.3	25.4	24.4	23.5	22.6	21.6
	.897	1.78	2.66	3.53	4.39	5.23	6.06	6.87	7.66	8.44	9.19	9.92	10.6	11.3	11.9
36.5	35.5	34.6	33.6	32.6	31.6	30.7	29.7	28.8	27.8	26.8	25.9	24.9	24.0	23.1	22.1
	.898	1.79	2.67	3.54	4.40	5.24	6.07	6.89	7.69	8.47	9.23	9.96	10.7	11.4	12.0
37.0	36.0	35.1	34.1	33.1	32.1	31.2	30.2	29.3	28.3	27.3	26.4	25.4	24.5	23.5	22.6
	.899	1.79	2.67	3.54	4.40	5.25	6.09	6.91	7.71	8.49	9.26	10.0	10.7	11.4	12.1
37.5	36.5	35.6	34.6	33.6	32.6	31.7	30.7	29.8	28.8	27.8	26.9	25.9	25.0	24.0	23.1
	.901	1.79	2.68	3.55	4.41	5.26	6.10	6.92	7.73	8.52	9.29	10.0	10.8	11.5	12.1
38.0	37.0	36.1	35.1	34.1	33.1	32.2	31.2	30.2	29.3	28.3	27.4	26.4	25.5	24.5	23.6
	.902	1.80	2.68	3.56	4.42	5.27	6.11	6.94	7.75	8.55	9.32	10.1	10.8	11.5	12.2
38.5	37.5	36.6	35.6	34.6	33.6	32.7	31.7	30.7	29.8	28.8	27.9	26.9	26.0	25.0	24.1
	.903	1.80	2.68	3.56	4.43	5.28	6.13	6.96	7.77	8.57	9.35	10.1	10.8	11.6	12.2
39.0	38.0	37.1	36.1	35.1	34.1	33.2	32.2	31.2	30.3	29.3	28.4	27.4	26.5	25.5	24.6
	.904	1.80	2.69	3.57	4.44	5.29	6.14	6.97	7.79	8.59	9.38	10.1	10.9	11.6	12.3
39.5	38.5	37.6	36.6	35.6	34.6	33.7	32.7	31.7	30.8	29.8	28.9	27.9	26.9	26.0	25.0
	.905	1.80	2.69	3.57	4.44	5.30	6.15	6.99	7.81	8.62	9.41	10.2	10.9	11.7	12.4
40.0	39.0	38.0	37.1	36.1	35.1	34.2	33.2	32.2	31.3	30.3	29.3	28.4	27.4	26.5	25.5
	.906	1.81	2.70	3.58	4.45	5.31	6.17	7.00	7.83	8.64	9.43	10.2	11.0	11.7	12.4
40.5	39.5	38.5	37.6	36.6	35.6	34.7	33.7	32.7	31.8	30.8	29.8	28.9	27.9	27.0	26.0
	.908	1.81	2.70	3.58	4.46	5.32	6.18	7.02	7.85	8.66	9.46	10.2	11.0	11.7	12.5
41.0	40.0	39.0	38.1	37.1	36.1	35.2	34.2	33.2	32.3	31.3	30.3	29.4	28.4	27.5	26.5
	.909	1.81	2.70	3.59	4.47	5.33	6.19	7.03	7.86	8.68	9.48	10.3	11.0	11.8	12.5
41.5	40.5	39.5	38.6	37.6	36.6	35.7	34.7	33.7	32.8	31.8	30.8	29.9	28.9	28.0	27.0
	.910	1.81	2.71	3.60	4.47	5.34	6.20	7.05	7.88	8.70	9.51	10.3	11.1	11.8	12.5
42.0	41.0	40.0	39.1	38.1	37.1	36.2	35.2	34.2	33.3	32.3	31.3	30.4	29.4	28.5	27.5
	.911	1.81	2.71	3.60	4.48	5.35	6.21	7.06	7.90	8.72	9.53	10.3	11.1	11.9	12.6
42.5	41.5	40.5	39.6	38.6	37.6	36.7	35.7	34.7	33.8	32.8	31.8	30.9	29.9	28.9	28.0
	.912	1.82	2.71	3.60	4.49	5.36	6.22	7.07	7.91	8.74	9.55	10.3	11.1	11.9	12.6
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

N

R em Erl
D

N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	A em Erl
15.4	14.5	13.6	12.7	11.9	11.0	10.2	9.35	8.55	7.77	7.02	6.29	5.60	4.93	4.31	30.5
11.5	11.9	12.2	12.4	12.6	12.7	12.6	12.5	12.3	12.0	11.5	11.0	10.3	9.59	8.77	
15.9	15.0	14.1	13.2	12.3	11.5	10.6	9.79	8.98	8.19	7.43	6.69	5.98	5.30	4.65	31.0
11.6	12.0	12.3	12.6	12.8	12.9	12.9	12.9	12.7	12.4	12.0	11.5	10.9	10.1	9.35	
16.3	15.4	14.5	13.7	12.8	11.9	11.1	10.2	9.42	8.62	7.84	7.09	6.36	5.67	5.01	31.5
11.7	12.1	12.5	12.8	13.0	13.2	13.2	13.2	13.0	12.8	12.4	11.9	11.4	10.7	9.93	
16.8	15.9	15.0	14.1	13.2	12.4	11.5	10.7	9.85	9.05	8.26	7.50	6.76	6.05	5.37	32.0
11.8	12.3	12.7	13.0	13.2	13.4	13.5	13.5	13.4	13.1	12.8	12.4	11.9	11.2	10.5	
17.3	16.4	15.5	14.6	13.7	12.8	12.0	11.1	10.3	9.48	8.68	7.91	7.16	6.43	5.74	32.5
11.9	12.4	12.8	13.1	13.4	13.6	13.7	13.7	13.7	13.5	13.2	12.8	12.4	11.8	11.1	
17.8	16.9	16.0	15.1	14.2	13.3	12.4	11.6	10.7	9.92	9.11	8.33	7.56	6.83	6.12	33.0
12.0	12.5	12.9	13.3	13.6	13.8	14.0	14.0	14.0	13.9	13.6	13.3	12.8	12.3	11.6	
18.3	17.4	16.4	15.5	14.6	13.8	12.9	12.0	11.2	10.4	9.54	8.75	7.98	7.23	6.50	33.5
12.1	12.6	13.1	13.5	13.8	14.0	14.2	14.3	14.3	14.2	14.0	13.7	13.3	12.8	12.1	
18.8	17.8	16.9	16.0	15.1	14.2	13.4	12.5	11.6	10.8	9.98	9.17	8.39	7.63	6.89	34.0
12.2	12.7	13.2	13.6	13.9	14.2	14.4	14.5	14.6	14.5	14.3	14.1	13.7	13.2	12.7	
19.2	18.3	17.4	16.5	15.6	14.7	13.8	12.9	12.1	11.2	10.4	9.60	8.81	8.04	7.29	34.5
12.3	12.8	13.3	13.7	14.1	14.4	14.6	14.8	14.8	14.8	14.7	14.5	14.1	13.7	13.2	
19.7	18.8	17.9	17.0	16.1	15.2	14.3	13.4	12.5	11.7	10.9	10.0	9.24	8.45	7.70	35.0
12.4	12.9	13.4	13.9	14.3	14.6	14.8	15.0	15.1	15.1	15.0	14.8	14.6	14.2	13.7	
20.2	19.3	18.4	17.4	16.5	15.6	14.8	13.9	13.0	12.1	11.3	10.5	9.67	8.87	8.10	35.5
12.5	13.0	13.5	14.0	14.4	14.7	15.0	15.2	15.4	15.4	15.3	15.2	15.0	14.6	14.1	
20.7	19.8	18.8	17.9	17.0	16.1	15.2	14.3	13.5	12.6	11.8	10.9	10.1	9.30	8.52	36.0
12.6	13.1	13.6	14.1	14.5	14.9	15.2	15.4	15.6	15.7	15.7	15.5	15.3	15.0	14.6	
21.2	20.2	19.3	18.4	17.5	16.6	15.7	14.8	13.9	13.1	12.2	11.4	10.5	9.73	8.94	36.5
12.6	13.2	13.7	14.2	14.7	15.1	15.4	15.6	15.8	15.9	15.9	15.9	15.7	15.4	15.1	
21.7	20.7	19.8	18.9	18.0	17.1	16.2	15.3	14.4	13.5	12.7	11.8	11.0	10.2	9.36	37.0
12.7	13.3	13.8	14.4	14.8	15.2	15.6	15.8	16.0	16.2	16.2	16.2	16.1	15.8	15.5	
22.2	21.2	20.3	19.4	18.4	17.5	16.6	15.7	14.9	14.0	13.1	12.3	11.4	10.6	9.79	37.5
12.8	13.4	13.9	14.5	14.9	15.4	15.7	16.0	16.3	16.4	16.5	16.5	16.4	16.2	15.9	
22.6	21.7	20.8	19.8	18.9	18.0	17.1	16.2	15.3	14.4	13.6	12.7	11.9	11.0	10.2	38.0
12.8	13.5	14.0	14.6	15.1	15.5	15.9	16.2	16.5	16.6	16.8	16.8	16.7	16.6	16.3	
23.1	22.2	21.3	20.3	19.4	18.5	17.6	16.7	15.8	14.9	14.0	13.2	12.3	11.5	10.7	38.5
12.9	13.5	14.1	14.7	15.2	15.6	16.0	16.4	16.7	16.9	17.0	17.1	17.0	16.9	16.7	
23.6	22.7	21.7	20.8	19.9	19.0	18.1	17.2	16.3	15.4	14.5	13.6	12.8	11.9	11.1	39.0
13.0	13.6	14.2	14.8	15.3	15.8	16.2	16.5	16.8	17.1	17.2	17.3	17.3	17.3	17.1	
24.1	23.2	22.2	21.3	20.4	19.4	18.5	17.6	16.7	15.8	15.0	14.1	13.2	12.4	11.5	39.5
13.0	13.7	14.3	14.9	15.4	15.9	16.3	16.7	17.0	17.3	17.5	17.6	17.6	17.6	17.4	
24.6	23.7	22.7	21.8	20.9	19.9	19.0	18.1	17.2	16.3	15.4	14.5	13.7	12.8	12.0	40.0
13.1	13.7	14.4	14.9	15.5	16.0	16.4	16.8	17.2	17.5	17.7	17.8	17.9	17.9	17.8	
25.1	24.1	23.2	22.3	21.3	20.4	19.5	18.6	17.7	16.8	15.9	15.0	14.1	13.3	12.4	40.5
13.1	13.8	14.4	15.0	15.6	16.1	16.6	17.0	17.4	17.7	17.9	18.1	18.2	18.2	18.1	
25.6	24.6	23.7	22.8	21.8	20.9	20.0	19.1	18.1	17.2	16.3	15.5	14.6	13.7	12.9	41.0
13.2	13.9	14.5	15.1	15.7	16.2	16.7	17.1	17.5	17.8	18.1	18.3	18.4	18.5	18.4	
26.1	25.1	24.2	23.2	22.3	21.4	20.5	19.5	18.6	17.7	16.8	15.9	15.0	14.2	13.3	41.5
13.2	13.9	14.6	15.2	15.8	16.3	16.8	17.3	17.7	18.0	18.3	18.5	18.7	18.8	18.8	
26.6	25.6	24.7	23.7	22.8	21.9	20.9	20.0	19.1	18.2	17.3	16.4	15.5	14.6	13.8	42.0
13.3	14.0	14.6	15.3	15.9	16.4	16.9	17.4	17.8	18.2	18.5	18.7	18.9	19.0	19.0	
27.0	26.1	25.2	24.2	23.3	22.3	21.4	20.5	19.6	18.7	17.8	16.9	16.0	15.1	14.2	42.5
13.3	14.0	14.7	15.3	15.9	16.5	17.0	17.5	18.0	18.4	18.7	18.9	19.2	19.3	19.3	
N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	A

R em Erl
D

A em Erl	N 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
30.5	3.72	3.18	2.68	2.23	1.83	1.47	1.17	.909	.694	.520	.382	.275	.194	.134	.090
	7.89	6.97	6.05	5.14	4.27	3.46	2.74	2.12	1.60	1.17	.835	.581	.394	.261	.169
31.0	4.05	3.48	2.96	2.48	2.05	1.67	1.34	1.06	.817	.621	.462	.337	.241	.169	.116
	8.49	7.58	6.65	5.71	4.81	3.96	3.19	2.50	1.91	1.43	1.04	.734	.507	.341	.225
31.5	4.38	3.79	3.25	2.75	2.29	1.89	1.53	1.22	.953	.733	.553	.410	.297	.211	.147
	9.09	8.19	7.25	6.31	5.38	4.49	3.66	2.92	2.27	1.72	1.27	.916	.643	.441	.295
32.0	4.72	4.12	3.55	3.02	2.55	2.11	1.73	1.39	1.10	.859	.657	.493	.362	.261	.185
	9.68	8.80	7.87	6.92	5.97	5.04	4.17	3.37	2.66	2.05	1.54	1.13	.807	.562	.383
32.5	5.08	4.45	3.86	3.32	2.81	2.35	1.94	1.58	1.27	.998	.772	.587	.437	.320	.229
	10.3	9.41	8.49	7.54	6.57	5.62	4.71	3.86	3.09	2.42	1.85	1.38	1.00	.709	.491
33.0	5.44	4.79	4.19	3.62	3.09	2.61	2.17	1.79	1.44	1.15	.901	.693	.523	.388	.282
	10.9	10.0	9.12	8.17	7.19	6.22	5.27	4.38	3.56	2.83	2.19	1.66	1.22	.883	.621
33.5	5.81	5.15	4.52	3.93	3.38	2.88	2.42	2.00	1.64	1.32	1.04	.811	.620	.466	.343
	11.4	10.6	9.74	8.80	7.82	6.84	5.86	4.93	4.06	3.27	2.57	1.98	1.48	1.09	.777
34.0	6.19	5.51	4.86	4.25	3.68	3.16	2.67	2.23	1.84	1.50	1.20	.943	.729	.554	.414
	12.0	11.2	10.4	9.43	8.46	7.47	6.47	5.51	4.59	3.75	2.99	2.34	1.78	1.32	.962
34.5	6.57	5.88	5.21	4.59	4.00	3.45	2.94	2.48	2.06	1.69	1.37	1.09	.851	.654	.495
	12.5	11.8	11.0	10.1	9.10	8.11	7.10	6.11	5.16	4.26	3.45	2.73	2.11	1.60	1.18
35.0	6.96	6.25	5.58	4.93	4.32	3.75	3.22	2.74	2.29	1.90	1.55	1.24	.985	.766	.586
	13.1	12.4	11.6	10.7	9.74	8.76	7.74	6.73	5.74	4.81	3.94	3.16	2.48	1.90	1.43
35.5	7.36	6.64	5.94	5.28	4.66	4.06	3.51	3.01	2.54	2.12	1.74	1.42	1.13	.890	.689
	13.6	12.9	12.2	11.3	10.4	9.41	8.39	7.37	6.36	5.38	4.47	3.63	2.89	2.25	1.71
36.0	7.76	7.03	6.32	5.64	5.00	4.39	3.82	3.29	2.80	2.35	1.95	1.60	1.29	1.03	.803
	14.1	13.5	12.7	11.9	11.0	10.1	9.05	8.02	6.99	5.98	5.03	4.14	3.34	2.63	2.03
36.5	8.17	7.42	6.70	6.01	5.35	4.72	4.13	3.58	3.07	2.60	2.18	1.80	1.47	1.18	.930
	14.6	14.0	13.3	12.5	11.7	10.7	9.71	8.68	7.64	6.61	5.61	4.68	3.82	3.05	2.39
37.0	8.58	7.82	7.09	6.38	5.71	5.06	4.45	3.88	3.35	2.86	2.41	2.01	1.65	1.34	1.07
	15.1	14.5	13.9	13.1	12.3	11.4	10.4	9.35	8.30	7.25	6.22	5.24	4.34	3.51	2.79
37.5	9.00	8.23	7.49	6.77	6.08	5.41	4.79	4.20	3.64	3.13	2.66	2.23	1.85	1.51	1.22
	15.5	15.0	14.4	13.7	12.9	12.0	11.0	10.0	8.97	7.91	6.86	5.84	4.89	4.01	3.22
38.0	9.42	8.64	7.89	7.15	6.45	5.77	5.13	4.52	3.95	3.41	2.92	2.47	2.06	1.70	1.39
	16.0	15.5	14.9	14.3	13.5	12.6	11.7	10.7	9.65	8.58	7.51	6.46	5.47	4.54	3.69
38.5	9.85	9.06	8.29	7.55	6.83	6.14	5.48	4.85	4.26	3.71	3.19	2.72	2.29	1.90	1.56
	16.4	16.0	15.4	14.8	14.1	13.3	12.3	11.4	10.3	9.26	8.18	7.11	6.07	5.10	4.20
39.0	10.3	9.48	8.70	7.95	7.22	6.51	5.84	5.19	4.58	4.01	3.47	2.98	2.53	2.12	1.75
	16.8	16.4	15.9	15.3	14.7	13.9	13.0	12.0	11.0	9.95	8.86	7.77	6.71	5.69	4.74
39.5	10.7	9.90	9.12	8.35	7.61	6.89	6.20	5.54	4.92	4.32	3.77	3.25	2.78	2.34	1.96
	17.2	16.9	16.4	15.9	15.2	14.5	13.6	12.7	11.7	10.6	9.55	8.45	7.36	6.31	5.31
40.0	11.1	10.3	9.54	8.76	8.01	7.28	6.58	5.90	5.26	4.65	4.07	3.53	3.04	2.58	2.17
	17.6	17.3	16.9	16.4	15.8	15.0	14.2	13.3	12.4	11.3	10.2	9.14	8.04	6.95	5.91
40.5	11.6	10.8	9.96	9.18	8.41	7.67	6.96	6.27	5.61	4.98	4.39	3.83	3.31	2.83	2.40
	18.0	17.7	17.3	16.9	16.3	15.6	14.8	14.0	13.0	12.0	10.9	9.84	8.72	7.62	6.54
41.0	12.0	11.2	10.4	9.60	8.82	8.07	7.34	6.64	5.96	5.32	4.71	4.13	3.60	3.10	2.64
	18.3	18.1	17.8	17.3	16.8	16.2	15.4	14.6	13.7	12.7	11.6	10.5	9.42	8.30	7.20
41.5	12.5	11.6	10.8	10.0	9.24	8.47	7.73	7.02	6.33	5.67	5.04	4.45	3.89	3.37	2.89
	18.7	18.5	18.2	17.8	17.3	16.7	16.0	15.2	14.3	13.4	12.3	11.3	10.1	9.00	7.87
42.0	12.9	12.1	11.3	10.4	9.65	8.88	8.13	7.40	6.70	6.03	5.38	4.77	4.19	3.66	3.16
	19.0	18.8	18.6	18.2	17.8	17.2	16.6	15.8	15.0	14.1	13.0	12.0	10.8	9.71	8.57
42.5	13.4	12.5	11.7	10.9	10.1	9.29	8.53	7.79	7.08	6.39	5.73	5.10	4.51	3.95	3.43
	19.3	19.2	19.0	18.7	18.3	17.8	17.1	16.4	15.6	14.7	13.7	12.7	11.6	10.4	9.27
A	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

N

R em Erl
D

A em Erl	N 46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
30.5	.060	.039	.025	.015	.009	.006	.003	.002	.001	.001					
	.107	.066	.040	.024	.014	.008	.004	.002	.001	.001					
31.0	.078	.051	.033	.021	.013	.008	.005	.003	.002	.001					
	.144	.091	.056	.034	.020	.012	.007	.004	.002	.001					
31.5	.101	.067	.044	.028	.018	.011	.007	.004	.002	.001	.001				
	.193	.123	.077	.047	.028	.017	.010	.006	.003	.002	.001				
32.0	.128	.087	.058	.038	.024	.015	.009	.006	.003	.002	.001	.001			
	.254	.165	.105	.066	.040	.024	.014	.008	.005	.003	.001	.001			
32.5	.161	.111	.075	.050	.032	.021	.013	.008	.005	.003	.002	.001	.001		
	.332	.219	.142	.090	.056	.034	.020	.012	.007	.004	.002	.001	.001		
33.0	.201	.141	.096	.065	.043	.028	.018	.011	.007	.004	.002	.001	.001		
	.427	.287	.188	.121	.076	.047	.029	.017	.010	.006	.003	.002	.001		
33.5	.248	.176	.122	.083	.056	.037	.024	.015	.009	.006	.003	.002	.001	.001	
	.543	.371	.247	.162	.103	.065	.040	.024	.014	.008	.005	.003	.001	.001	
34.0	.303	.218	.154	.106	.072	.048	.031	.020	.013	.008	.005	.003	.002	.001	.001
	.683	.474	.321	.213	.138	.088	.055	.034	.020	.012	.007	.004	.002	.001	.001
34.5	.367	.267	.191	.134	.092	.062	.041	.027	.017	.011	.007	.004	.002	.001	.001
	.849	.598	.412	.278	.183	.118	.075	.047	.029	.017	.010	.006	.003	.002	.001
35.0	.440	.325	.235	.167	.117	.080	.054	.035	.023	.015	.009	.006	.003	.002	.001
	1.04	.748	.523	.358	.240	.157	.101	.064	.040	.024	.014	.008	.005	.003	.002
35.5	.524	.391	.287	.207	.146	.101	.069	.046	.030	.020	.012	.008	.005	.003	.002
	1.27	.924	.657	.456	.310	.207	.135	.086	.054	.034	.020	.012	.007	.004	.002
36.0	.618	.467	.347	.253	.181	.128	.088	.060	.040	.026	.017	.011	.007	.004	.002
	1.53	1.13	.815	.575	.397	.268	.178	.115	.074	.046	.028	.017	.010	.006	.003
36.5	.723	.553	.416	.307	.223	.159	.111	.076	.052	.034	.022	.014	.009	.006	.003
	1.83	1.37	1.00	.718	.503	.345	.232	.153	.099	.063	.039	.024	.014	.009	.005
37.0	.840	.650	.494	.369	.271	.196	.139	.097	.066	.044	.029	.019	.012	.008	.005
	2.16	1.64	1.22	.886	.630	.439	.299	.200	.131	.084	.053	.033	.020	.012	.007
37.5	.969	.758	.583	.441	.328	.239	.172	.121	.084	.057	.038	.025	.016	.010	.006
	2.53	1.95	1.47	1.08	.781	.552	.382	.259	.172	.112	.072	.045	.028	.017	.010
38.0	1.11	.878	.682	.522	.392	.290	.211	.151	.106	.073	.049	.033	.022	.014	.009
	2.94	2.30	1.75	1.31	.960	.687	.482	.332	.224	.148	.096	.061	.038	.024	.014
38.5	1.27	1.01	.793	.613	.466	.349	.257	.185	.132	.092	.063	.043	.028	.018	.012
	3.39	2.68	2.07	1.57	1.17	.848	.603	.421	.288	.193	.127	.082	.052	.033	.020
39.0	1.43	1.15	.915	.715	.550	.416	.309	.226	.163	.115	.080	.055	.037	.024	.016
	3.87	3.10	2.43	1.87	1.41	1.04	.748	.529	.366	.249	.166	.109	.070	.044	.028
39.5	1.61	1.31	1.05	.828	.643	.492	.370	.274	.199	.143	.100	.069	.047	.032	.021
	4.39	3.56	2.83	2.20	1.68	1.25	.917	.658	.462	.318	.215	.143	.093	.060	.038
40.0	1.80	1.48	1.20	.952	.748	.578	.440	.329	.242	.175	.125	.087	.060	.041	.027
	4.94	4.05	3.26	2.57	1.99	1.50	1.12	.810	.577	.403	.276	.186	.123	.080	.051
40.5	2.01	1.66	1.35	1.09	.863	.674	.518	.392	.292	.214	.154	.109	.076	.052	.035
	5.53	4.58	3.73	2.98	2.33	1.79	1.34	.989	.714	.505	.351	.239	.160	.105	.068
41.0	2.23	1.85	1.52	1.24	.990	.781	.606	.464	.349	.259	.188	.135	.095	.066	.045
	6.14	5.15	4.24	3.42	2.71	2.11	1.60	1.20	.876	.628	.442	.305	.207	.138	.090
41.5	2.45	2.06	1.71	1.40	1.13	.898	.705	.545	.414	.310	.229	.166	.118	.083	.057
	6.78	5.74	4.78	3.91	3.13	2.46	1.90	1.44	1.06	.773	.551	.385	.265	.179	.118
42.0	2.70	2.28	1.90	1.57	1.28	1.03	.814	.635	.488	.370	.275	.202	.146	.103	.072
	7.44	6.37	5.36	4.43	3.59	2.86	2.23	1.71	1.28	.944	.681	.483	.336	.229	.154
42.5	2.95	2.51	2.11	1.76	1.44	1.17	.934	.736	.571	.437	.329	.244	.178	.128	.090
	8.13	7.02	5.96	4.98	4.08	3.29	2.60	2.01	1.53	1.14	.835	.599	.422	.292	.198
A	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

N

A em Erl	N 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
30.5															
31.0															
31.5															
32.0															
32.5															
33.0															
33.5															
34.0															
34.5															
35.0	.001 .001														
35.5	.001 .001	.001 .001													
36.0	.001 .002	.001 .001													
36.5	.002 .003	.001 .002	.001 .001												
37.0	.003 .004	.002 .002	.001 .001	.001 .001											
37.5	.004 .006	.002 .004	.001 .002	.001 .001											
38.0	.005 .009	.003 .005	.002 .003	.001 .002	.001 .001										
38.5	.007 .012	.005 .007	.003 .004	.002 .002	.001 .001	.001 .001									
39.0	.010 .017	.006 .010	.004 .006	.002 .004	.001 .002	.001 .001									
39.5	.013 .023	.009 .014	.005 .009	.003 .005	.002 .003	.001 .002	.001 .001								
40.0	.018 .032	.011 .020	.007 .012	.005 .007	.003 .004	.002 .003	.001 .001	.001 .001							
40.5	.023 .043	.015 .027	.010 .017	.006 .010	.004 .006	.002 .004	.001 .002	.001 .001	.001 .001						
41.0	.030 .058	.020 .037	.013 .023	.008 .014	.005 .009	.003 .005	.002 .003	.001 .002	.001 .001						
41.5	.039 .077	.026 .050	.017 .031	.011 .020	.007 .012	.004 .007	.003 .004	.002 .003	.001 .001	.001 .001					
42.0	.050 .102	.034 .066	.022 .042	.015 .027	.010 .017	.006 .010	.004 .006	.002 .004	.001 .002	.001 .001	.001 .001				
42.5	.063 .133	.043 .087	.029 .056	.019 .036	.013 .023	.008 .014	.005 .009	.003 .005	.002 .003	.001 .002	.001 .001				
A	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75

N

A em Erl	N 76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
30.5															
31.0															
31.5															
32.0															
32.5															
33.0															
33.5															
34.0															
34.5															
35.0															
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36.5															
37.0															
37.5															
38.0															
38.5															
39.0															
39.5															
40.0															
40.5															
41.0															
41.5															
42.0															
42.5															
A	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

N

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
43.0	42.0	41.0	40.1	39.1	38.1	37.2	36.2	35.2	34.2	33.3	32.3	31.4	30.4	29.4	28.5
	.913	1.82	2.72	3.61	4.49	5.37	6.23	7.09	7.93	8.76	9.57	10.4	11.2	11.9	12.7
43.5	42.5	41.5	40.6	39.6	38.6	37.7	36.7	35.7	34.7	33.8	32.8	31.9	30.9	29.9	29.0
	.914	1.82	2.72	3.61	4.50	5.38	6.24	7.10	7.94	8.78	9.60	10.4	11.2	12.0	12.7
44.0	43.0	42.0	41.1	40.1	39.1	38.1	37.2	36.2	35.2	34.3	33.3	32.3	31.4	30.4	29.5
	.914	1.82	2.72	3.62	4.51	5.38	6.25	7.11	7.96	8.79	9.62	10.4	11.2	12.0	12.7
44.5	43.5	42.5	41.6	40.6	39.6	38.6	37.7	36.7	35.7	34.8	33.8	32.8	31.9	30.9	30.0
	.915	1.82	2.73	3.62	4.51	5.39	6.26	7.12	7.97	8.81	9.64	10.4	11.2	12.0	12.8
45.0	44.0	43.0	42.1	41.1	40.1	39.1	38.2	37.2	36.2	35.3	34.3	33.3	32.4	31.4	30.5
	.916	1.83	2.73	3.63	4.52	5.40	6.27	7.13	7.99	8.83	9.66	10.5	11.3	12.1	12.8
45.5	44.5	43.5	42.6	41.6	40.6	39.6	38.7	37.7	36.7	35.8	34.8	33.8	32.9	31.9	31.0
	.917	1.83	2.73	3.63	4.52	5.41	6.28	7.15	8.00	8.84	9.68	10.5	11.3	12.1	12.9
46.0	45.0	44.0	43.1	42.1	41.1	40.1	39.2	38.2	37.2	36.3	35.3	34.3	33.4	32.4	31.4
	.918	1.83	2.74	3.64	4.53	5.41	6.29	7.16	8.01	8.86	9.69	10.5	11.3	12.1	12.9
46.5	45.5	44.5	43.6	42.6	41.6	40.6	39.7	38.7	37.7	36.8	35.8	34.8	33.9	32.9	31.9
	.919	1.83	2.74	3.64	4.53	5.42	6.30	7.17	8.03	8.87	9.71	10.5	11.3	12.1	12.9
47.0	46.0	45.0	44.1	43.1	42.1	41.1	40.2	39.2	38.2	37.3	36.3	35.3	34.4	33.4	32.4
	.920	1.83	2.74	3.64	4.54	5.43	6.31	7.18	8.04	8.89	9.73	10.6	11.4	12.2	13.0
47.5	46.5	45.5	44.6	43.6	42.6	41.6	40.7	39.7	38.7	37.8	36.8	35.8	34.9	33.9	32.9
	.920	1.84	2.74	3.65	4.54	5.43	6.31	7.19	8.05	8.90	9.75	10.6	11.4	12.2	13.0
48.0	47.0	46.0	45.1	44.1	43.1	42.1	41.2	40.2	39.2	38.2	37.3	36.3	35.3	34.4	33.4
	.921	1.84	2.75	3.65	4.55	5.44	6.32	7.20	8.06	8.92	9.76	10.6	11.4	12.2	13.0
48.5	47.5	46.5	45.6	44.6	43.6	42.6	41.7	40.7	39.7	38.7	37.8	36.8	35.8	34.9	33.9
	.922	1.84	2.75	3.66	4.55	5.45	6.33	7.21	8.07	8.93	9.78	10.6	11.4	12.3	13.0
49.0	48.0	47.0	46.1	45.1	44.1	43.1	42.2	41.2	40.2	39.2	38.3	37.3	36.3	35.4	34.4
	.923	1.84	2.75	3.66	4.56	5.45	6.34	7.22	8.09	8.95	9.80	10.6	11.5	12.3	13.1
49.5	48.5	47.5	46.6	45.6	44.6	43.6	42.7	41.7	40.7	39.7	38.8	37.8	36.8	35.9	34.9
	.923	1.84	2.76	3.66	4.56	5.46	6.35	7.23	8.10	8.96	9.81	10.7	11.5	12.3	13.1
50.0	49.0	48.0	47.1	46.1	45.1	44.1	43.2	42.2	41.2	40.2	39.3	38.3	37.3	36.4	35.4
	.924	1.84	2.76	3.67	4.57	5.46	6.35	7.23	8.11	8.97	9.83	10.7	11.5	12.3	13.1
50.5	49.5	48.5	47.6	46.6	45.6	44.6	43.7	42.7	41.7	40.7	39.8	38.8	37.8	36.9	35.9
	.925	1.85	2.76	3.67	4.57	5.47	6.36	7.24	8.12	8.98	9.84	10.7	11.5	12.3	13.2
51.0	50.0	49.0	48.1	47.1	46.1	45.1	44.2	43.2	42.2	41.2	40.3	39.3	38.3	37.4	36.4
	.926	1.85	2.76	3.67	4.58	5.48	6.37	7.25	8.13	9.00	9.86	10.7	11.5	12.4	13.2
51.5	50.5	49.5	48.6	47.6	46.6	45.6	44.6	43.7	42.7	41.7	40.8	39.8	38.8	37.8	36.9
	.926	1.85	2.76	3.68	4.58	5.48	6.37	7.26	8.14	9.01	9.87	10.7	11.6	12.4	13.2
52.0	51.0	50.0	49.1	48.1	47.1	46.1	45.1	44.2	43.2	42.2	41.3	40.3	39.3	38.3	37.4
	.927	1.85	2.77	3.68	4.59	5.49	6.38	7.27	8.15	9.02	9.88	10.7	11.6	12.4	13.2
52.5	51.5	50.5	49.6	48.6	47.6	46.6	45.6	44.7	43.7	42.7	41.8	40.8	39.8	38.8	37.9
	.928	1.85	2.77	3.68	4.59	5.49	6.39	7.28	8.16	9.03	9.90	10.8	11.6	12.4	13.3
53.0	52.0	51.0	50.1	49.1	48.1	47.1	46.1	45.2	44.2	43.2	42.2	41.3	40.3	39.3	38.4
	.928	1.85	2.77	3.69	4.59	5.50	6.39	7.28	8.17	9.04	9.91	10.8	11.6	12.5	13.3
53.5	52.5	51.5	50.6	49.6	48.6	47.6	46.6	45.7	44.7	43.7	42.7	41.8	40.8	39.8	38.9
	.929	1.85	2.77	3.69	4.60	5.50	6.40	7.29	8.18	9.05	9.92	10.8	11.6	12.5	13.3
54.0	53.0	52.0	51.1	50.1	49.1	48.1	47.1	46.2	45.2	44.2	43.2	42.3	41.3	40.3	39.4
	.930	1.85	2.78	3.69	4.60	5.51	6.41	7.30	8.19	9.06	9.94	10.8	11.7	12.5	13.3
54.5	53.5	52.5	51.6	50.6	49.6	48.6	47.6	46.7	45.7	44.7	43.7	42.8	41.8	40.8	39.9
	.930	1.86	2.78	3.69	4.61	5.51	6.41	7.31	8.19	9.08	9.95	10.8	11.7	12.5	13.3
55.0	54.0	53.0	52.1	51.1	50.1	49.1	48.1	47.2	46.2	45.2	44.2	43.3	42.3	41.3	40.4
	.931	1.86	2.78	3.70	4.61	5.52	6.42	7.31	8.20	9.09	9.96	10.8	11.7	12.5	13.4
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

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A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
43.0	27.5	26.6	25.6	24.7	23.8	22.8	21.9	21.0	20.1	19.1	18.2	17.3	16.4	15.6	14.7
	13.4	14.1	14.8	15.4	16.0	16.6	17.1	17.6	18.1	18.5	18.9	19.1	19.4	19.5	19.6
43.5	28.0	27.1	26.1	25.2	24.2	23.3	22.4	21.5	20.5	19.6	18.7	17.8	16.9	16.0	15.1
	13.4	14.1	14.8	15.5	16.1	16.7	17.3	17.8	18.2	18.7	19.0	19.3	19.6	19.8	19.9
44.0	28.5	27.6	26.6	25.7	24.7	23.8	22.9	21.9	21.0	20.1	19.2	18.3	17.4	16.5	15.6
	13.5	14.2	14.9	15.6	16.2	16.8	17.3	17.9	18.4	18.8	19.2	19.5	19.8	20.0	20.1
44.5	29.0	28.1	27.1	26.2	25.2	24.3	23.3	22.4	21.5	20.6	19.7	18.7	17.8	17.0	16.1
	13.5	14.2	14.9	15.6	16.3	16.9	17.4	18.0	18.5	18.9	19.3	19.7	20.0	20.2	20.4
45.0	29.5	28.5	27.6	26.7	25.7	24.8	23.8	22.9	22.0	21.0	20.1	19.2	18.3	17.4	16.5
	13.6	14.3	15.0	15.7	16.3	16.9	17.5	18.1	18.6	19.1	19.5	19.9	20.2	20.4	20.6
45.5	30.0	29.0	28.1	27.1	26.2	25.3	24.3	23.4	22.5	21.5	20.6	19.7	18.8	17.9	17.0
	13.6	14.3	15.1	15.7	16.4	17.0	17.6	18.2	18.7	19.2	19.6	20.0	20.4	20.6	20.8
46.0	30.5	29.5	28.6	27.6	26.7	25.7	24.8	23.9	22.9	22.0	21.1	20.2	19.3	18.4	17.5
	13.6	14.4	15.1	15.8	16.5	17.1	17.7	18.3	18.8	19.3	19.8	20.2	20.5	20.8	21.1
46.5	31.0	30.0	29.1	28.1	27.2	26.2	25.3	24.4	23.4	22.5	21.6	20.6	19.7	18.8	17.9
	13.7	14.4	15.2	15.9	16.5	17.2	17.8	18.4	18.9	19.4	19.9	20.3	20.7	21.0	21.3
47.0	31.5	30.5	29.6	28.6	27.7	26.7	25.8	24.8	23.9	23.0	22.0	21.1	20.2	19.3	18.4
	13.7	14.5	15.2	15.9	16.6	17.2	17.9	18.5	19.0	19.6	20.0	20.5	20.9	21.2	21.5
47.5	32.0	31.0	30.1	29.1	28.2	27.2	26.3	25.3	24.4	23.5	22.5	21.6	20.7	19.8	18.9
	13.8	14.5	15.2	16.0	16.7	17.3	18.0	18.6	19.1	19.7	20.2	20.6	21.0	21.4	21.7
48.0	32.5	31.5	30.5	29.6	28.6	27.7	26.8	25.8	24.9	23.9	23.0	22.1	21.2	20.3	19.3
	13.8	14.6	15.3	16.0	16.7	17.4	18.0	18.6	19.2	19.8	20.3	20.8	21.2	21.6	21.9
48.5	33.0	32.0	31.0	30.1	29.1	28.2	27.2	26.3	25.4	24.4	23.5	22.6	21.6	20.7	19.8
	13.8	14.6	15.3	16.1	16.8	17.4	18.1	18.7	19.3	19.9	20.4	20.9	21.3	21.7	22.1
49.0	33.4	32.5	31.5	30.6	29.6	28.7	27.7	26.8	25.8	24.9	24.0	23.0	22.1	21.2	20.3
	13.9	14.6	15.4	16.1	16.8	17.5	18.2	18.8	19.4	20.0	20.5	21.0	21.5	21.9	22.2
49.5	33.9	33.0	32.0	31.1	30.1	29.2	28.2	27.3	26.3	25.4	24.5	23.5	22.6	21.7	20.8
	13.9	14.7	15.4	16.2	16.9	17.6	18.2	18.9	19.5	20.1	20.6	21.1	21.6	22.0	22.4
50.0	34.4	33.5	32.5	31.6	30.6	29.7	28.7	27.8	26.8	25.9	24.9	24.0	23.1	22.2	21.2
	13.9	14.7	15.5	16.2	16.9	17.6	18.3	19.0	19.6	20.2	20.7	21.3	21.7	22.2	22.6
50.5	34.9	34.0	33.0	32.1	31.1	30.1	29.2	28.2	27.3	26.4	25.4	24.5	23.6	22.6	21.7
	14.0	14.7	15.5	16.2	17.0	17.7	18.4	19.0	19.7	20.3	20.8	21.4	21.9	22.3	22.7
51.0	35.4	34.5	33.5	32.5	31.6	30.6	29.7	28.7	27.8	26.8	25.9	25.0	24.0	23.1	22.2
	14.0	14.8	15.5	16.3	17.0	17.7	18.4	19.1	19.7	20.3	20.9	21.5	22.0	22.5	22.9
51.5	35.9	35.0	34.0	33.0	32.1	31.1	30.2	29.2	28.3	27.3	26.4	25.5	24.5	23.6	22.7
	14.0	14.8	15.6	16.3	17.1	17.8	18.5	19.2	19.8	20.4	21.0	21.6	22.1	22.6	23.0
52.0	36.4	35.4	34.5	33.5	32.6	31.6	30.7	29.7	28.8	27.8	26.9	25.9	25.0	24.1	23.2
	14.0	14.8	15.6	16.4	17.1	17.8	18.5	19.2	19.9	20.5	21.1	21.7	22.2	22.7	23.2
52.5	36.9	35.9	35.0	34.0	33.1	32.1	31.2	30.2	29.3	28.3	27.4	26.4	25.5	24.6	23.6
	14.1	14.9	15.6	16.4	17.2	17.9	18.6	19.3	20.0	20.6	21.2	21.8	22.3	22.8	23.3
53.0	37.4	36.4	35.5	34.5	33.6	32.6	31.6	30.7	29.7	28.8	27.9	26.9	26.0	25.0	24.1
	14.1	14.9	15.7	16.5	17.2	17.9	18.7	19.4	20.0	20.7	21.3	21.9	22.4	23.0	23.4
53.5	37.9	36.9	36.0	35.0	34.0	33.1	32.1	31.2	30.2	29.3	28.3	27.4	26.5	25.5	24.6
	14.1	14.9	15.7	16.5	17.3	18.0	18.7	19.4	20.1	20.7	21.4	22.0	22.5	23.1	23.6
54.0	38.4	37.4	36.5	35.5	34.5	33.6	32.6	31.7	30.7	29.8	28.8	27.9	26.9	26.0	25.1
	14.1	15.0	15.7	16.5	17.3	18.0	18.8	19.5	20.2	20.8	21.5	22.1	22.6	23.2	23.7
54.5	38.9	37.9	37.0	36.0	35.0	34.1	33.1	32.2	31.2	30.3	29.3	28.4	27.4	26.5	25.6
	14.2	15.0	15.8	16.6	17.3	18.1	18.8	19.5	20.2	20.9	21.5	22.2	22.7	23.3	23.8
55.0	39.4	38.4	37.5	36.5	35.5	34.6	33.6	32.7	31.7	30.7	29.8	28.9	27.9	27.0	26.0
	14.2	15.0	15.8	16.6	17.4	18.1	18.9	19.6	20.3	21.0	21.6	22.2	22.8	23.4	23.9
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

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A em Erl	N 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
43.0	13.8	13.0	12.1	11.3	10.5	9.71	8.94	8.19	7.46	6.76	6.09	5.44	4.83	4.25	3.71
	19.6	19.5	19.4	19.1	18.7	18.3	17.7	17.0	16.2	15.4	14.4	13.4	12.3	11.2	9.99
43.5	14.3	13.4	12.6	11.7	10.9	10.1	9.35	8.59	7.85	7.14	6.45	5.79	5.16	4.57	4.01
	19.9	19.9	19.7	19.5	19.2	18.7	18.2	17.6	16.8	16.0	15.1	14.1	13.0	11.9	10.7
44.0	14.7	13.9	13.0	12.2	11.4	10.6	9.77	9.00	8.25	7.52	6.82	6.15	5.50	4.89	4.31
	20.2	20.2	20.1	19.9	19.6	19.2	18.7	18.1	17.4	16.6	15.7	14.8	13.7	12.6	11.5
44.5	15.2	14.3	13.5	12.6	11.8	11.0	10.2	9.41	8.65	7.91	7.20	6.51	5.85	5.22	4.63
	20.5	20.5	20.4	20.3	20.0	19.7	19.2	18.6	18.0	17.2	16.4	15.4	14.4	13.3	12.2
45.0	15.7	14.8	13.9	13.1	12.2	11.4	10.6	9.82	9.05	8.31	7.58	6.88	6.21	5.56	4.95
	20.7	20.8	20.7	20.6	20.4	20.1	19.7	19.2	18.6	17.8	17.0	16.1	15.1	14.1	12.9
45.5	16.1	15.2	14.4	13.5	12.7	11.9	11.0	10.2	9.46	8.70	7.97	7.26	6.57	5.91	5.28
	21.0	21.1	21.1	21.0	20.8	20.5	20.1	19.7	19.1	18.4	17.6	16.8	15.8	14.8	13.7
46.0	16.6	15.7	14.8	14.0	13.1	12.3	11.5	10.7	9.88	9.11	8.36	7.64	6.94	6.27	5.62
	21.2	21.3	21.4	21.3	21.2	20.9	20.6	20.2	19.6	19.0	18.2	17.4	16.5	15.5	14.4
46.5	17.0	16.2	15.3	14.4	13.6	12.7	11.9	11.1	10.3	9.52	8.76	8.03	7.31	6.63	5.97
	21.5	21.6	21.7	21.6	21.5	21.3	21.0	20.6	20.1	19.5	18.8	18.0	17.2	16.2	15.1
47.0	17.5	16.6	15.7	14.9	14.0	13.2	12.3	11.5	10.7	9.93	9.17	8.42	7.70	7.00	6.32
	21.7	21.9	21.9	21.9	21.9	21.7	21.4	21.1	20.6	20.1	19.4	18.7	17.8	16.9	15.8
47.5	18.0	17.1	16.2	15.3	14.5	13.6	12.8	12.0	11.1	10.3	9.57	8.82	8.08	7.37	6.69
	21.9	22.1	22.2	22.2	22.2	22.1	21.8	21.5	21.1	20.6	20.0	19.3	18.4	17.5	16.5
48.0	18.4	17.6	16.7	15.8	14.9	14.1	13.2	12.4	11.6	10.8	9.99	9.22	8.48	7.75	7.05
	22.1	22.3	22.5	22.5	22.5	22.4	22.2	21.9	21.6	21.1	20.5	19.8	19.1	18.2	17.2
48.5	18.9	18.0	17.1	16.2	15.4	14.5	13.7	12.8	12.0	11.2	10.4	9.63	8.87	8.14	7.43
	22.3	22.6	22.7	22.8	22.8	22.8	22.6	22.4	22.0	21.6	21.1	20.4	19.7	18.8	17.9
49.0	19.4	18.5	17.6	16.7	15.8	15.0	14.1	13.3	12.4	11.6	10.8	10.0	9.28	8.53	7.81
	22.5	22.8	23.0	23.1	23.1	23.1	23.0	22.8	22.5	22.1	21.6	21.0	20.3	19.5	18.6
49.5	19.9	19.0	18.1	17.2	16.3	15.4	14.6	13.7	12.9	12.1	11.2	10.5	9.68	8.93	8.19
	22.7	23.0	23.2	23.3	23.4	23.4	23.3	23.1	22.9	22.5	22.1	21.5	20.9	20.1	19.2
50.0	20.3	19.4	18.5	17.6	16.8	15.9	15.0	14.2	13.3	12.5	11.7	10.9	10.1	9.33	8.59
	22.9	23.2	23.4	23.6	23.7	23.7	23.6	23.5	23.3	23.0	22.5	22.0	21.4	20.7	19.9
50.5	20.8	19.9	19.0	18.1	17.2	16.3	15.5	14.6	13.8	12.9	12.1	11.3	10.5	9.74	8.98
	23.1	23.4	23.6	23.8	24.0	24.0	24.0	23.9	23.7	23.4	23.0	22.5	22.0	21.3	20.5
51.0	21.3	20.4	19.5	18.6	17.7	16.8	15.9	15.1	14.2	13.4	12.5	11.7	10.9	10.1	9.38
	23.3	23.6	23.9	24.1	24.2	24.3	24.3	24.2	24.1	23.8	23.5	23.0	22.5	21.9	21.1
51.5	21.8	20.8	19.9	19.0	18.1	17.3	16.4	15.5	14.7	13.8	13.0	12.2	11.3	10.6	9.79
	23.4	23.8	24.1	24.3	24.5	24.6	24.6	24.6	24.4	24.2	23.9	23.5	23.0	22.4	21.7
52.0	22.2	21.3	20.4	19.5	18.6	17.7	16.8	16.0	15.1	14.3	13.4	12.6	11.8	11.0	10.2
	23.6	23.9	24.3	24.5	24.7	24.8	24.9	24.9	24.8	24.6	24.3	24.0	23.5	23.0	22.3
52.5	22.7	21.8	20.9	20.0	19.1	18.2	17.3	16.4	15.6	14.7	13.9	13.0	12.2	11.4	10.6
	23.7	24.1	24.4	24.7	24.9	25.1	25.2	25.2	25.1	25.0	24.7	24.4	24.0	23.5	22.9
53.0	23.2	22.3	21.4	20.4	19.5	18.6	17.8	16.9	16.0	15.2	14.3	13.5	12.6	11.8	11.0
	23.9	24.3	24.6	24.9	25.2	25.3	25.4	25.5	25.5	25.3	25.1	24.9	24.5	24.0	23.4
53.5	23.7	22.7	21.8	20.9	20.0	19.1	18.2	17.3	16.5	15.6	14.7	13.9	13.1	12.3	11.5
	24.0	24.4	24.8	25.1	25.4	25.6	25.7	25.8	25.8	25.7	25.5	25.3	24.9	24.5	24.0
54.0	24.1	23.2	22.3	21.4	20.5	19.6	18.7	17.8	16.9	16.1	15.2	14.3	13.5	12.7	11.9
	24.2	24.6	25.0	25.3	25.6	25.8	26.0	26.1	26.1	26.0	25.9	25.7	25.4	25.0	24.5
54.5	24.6	23.7	22.8	21.9	21.0	20.1	19.2	18.3	17.4	16.5	15.6	14.8	13.9	13.1	12.3
	24.3	24.7	25.1	25.5	25.8	26.0	26.2	26.3	26.4	26.4	26.3	26.1	25.8	25.5	25.0
55.0	25.1	24.2	23.3	22.3	21.4	20.5	19.6	18.7	17.8	17.0	16.1	15.2	14.4	13.6	12.7
	24.4	24.9	25.3	25.7	26.0	26.2	26.5	26.6	26.7	26.7	26.6	26.5	26.2	25.9	25.5
A	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
								N							

A em Erl	N 46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
43.0	3.21	2.75	2.33	1.95	1.62	1.32	1.07	.847	.664	.513	.390	.292	.216	.157	.112
	8.83	7.69	6.60	5.57	4.61	3.76	3.00	2.36	1.81	1.37	1.01	.737	.526	.368	.253
43.5	3.49	3.00	2.56	2.16	1.80	1.49	1.21	.969	.767	.598	.460	.348	.260	.191	.138
	9.55	8.39	7.26	6.18	5.18	4.26	3.45	2.74	2.13	1.63	1.22	.899	.649	.460	.321
44.0	3.77	3.27	2.81	2.38	2.00	1.66	1.36	1.10	.881	.693	.538	.412	.310	.230	.168
	10.3	9.10	7.94	6.83	5.78	4.81	3.93	3.15	2.49	1.92	1.46	1.09	.795	.571	.402
44.5	4.07	3.54	3.06	2.62	2.21	1.85	1.53	1.25	1.00	.799	.626	.483	.368	.276	.203
	11.0	9.83	8.65	7.50	6.41	5.38	4.45	3.61	2.88	2.25	1.73	1.30	.965	.701	.501
45.0	4.37	3.83	3.33	2.86	2.43	2.05	1.71	1.40	1.14	.914	.723	.563	.433	.328	.245
	11.8	10.6	9.37	8.19	7.06	5.99	5.00	4.10	3.31	2.62	2.03	1.55	1.16	.855	.618
45.5	4.69	4.13	3.60	3.12	2.67	2.26	1.90	1.57	1.29	1.04	.830	.653	.507	.387	.292
	12.5	11.3	10.1	8.91	7.74	6.63	5.59	4.63	3.77	3.02	2.37	1.83	1.39	1.03	.756
46.0	5.01	4.43	3.89	3.38	2.91	2.49	2.10	1.75	1.45	1.18	.948	.752	.589	.455	.346
	13.2	12.1	10.9	9.64	8.45	7.30	6.21	5.19	4.28	3.46	2.75	2.15	1.65	1.24	.917
46.5	5.34	4.75	4.18	3.66	3.17	2.72	2.31	1.94	1.62	1.33	1.08	.862	.681	.530	.408
	14.0	12.8	11.6	10.4	9.17	7.99	6.85	5.79	4.82	3.94	3.16	2.50	1.94	1.48	1.11
47.0	5.68	5.07	4.49	3.94	3.44	2.97	2.54	2.15	1.80	1.49	1.22	.982	.782	.615	.477
	14.7	13.6	12.4	11.1	9.91	8.70	7.53	6.42	5.39	4.45	3.62	2.89	2.26	1.74	1.32
47.5	6.03	5.40	4.80	4.24	3.71	3.22	2.77	2.36	1.99	1.66	1.37	1.11	.894	.709	.555
	15.5	14.3	13.1	11.9	10.7	9.43	8.23	7.08	6.00	5.00	4.11	3.31	2.63	2.05	1.57
48.0	6.38	5.74	5.13	4.55	4.00	3.49	3.02	2.59	2.19	1.84	1.53	1.25	1.02	.812	.641
	16.2	15.1	13.9	12.7	11.4	10.2	8.95	7.77	6.64	5.59	4.63	3.78	3.03	2.38	1.84
48.5	6.74	6.09	5.46	4.86	4.30	3.77	3.28	2.82	2.41	2.04	1.70	1.41	1.15	.926	.737
	16.9	15.8	14.7	13.4	12.2	10.9	9.70	8.48	7.31	6.21	5.19	4.28	3.46	2.76	2.16
49.0	7.11	6.44	5.80	5.18	4.60	4.06	3.55	3.07	2.64	2.24	1.89	1.57	1.29	1.05	.842
	17.6	16.5	15.4	14.2	13.0	11.7	10.5	9.21	8.01	6.86	5.79	4.81	3.94	3.17	2.50
49.5	7.48	6.80	6.14	5.51	4.92	4.35	3.82	3.33	2.88	2.46	2.08	1.74	1.45	1.18	.958
	18.3	17.3	16.2	15.0	13.8	12.5	11.2	9.96	8.73	7.54	6.42	5.39	4.45	3.61	2.89
50.0	7.86	7.17	6.50	5.85	5.24	4.66	4.11	3.60	3.12	2.69	2.29	1.93	1.61	1.33	1.08
	19.0	18.0	16.9	15.7	14.5	13.3	12.0	10.7	9.47	8.25	7.08	5.99	5.00	4.10	3.31
50.5	8.25	7.54	6.86	6.20	5.57	4.97	4.41	3.88	3.38	2.93	2.51	2.13	1.79	1.48	1.22
	19.6	18.7	17.6	16.5	15.3	14.1	12.8	11.5	10.2	8.97	7.77	6.63	5.58	4.62	3.77
51.0	8.64	7.92	7.22	6.55	5.91	5.30	4.71	4.17	3.65	3.18	2.74	2.34	1.98	1.65	1.37
	20.3	19.4	18.4	17.3	16.1	14.9	13.6	12.3	11.0	9.73	8.49	7.30	6.20	5.18	4.26
51.5	9.04	8.30	7.60	6.91	6.25	5.63	5.03	4.46	3.93	3.44	2.98	2.56	2.17	1.83	1.52
	20.9	20.0	19.1	18.0	16.9	15.6	14.4	13.1	11.8	10.5	9.22	8.00	6.85	5.77	4.80
52.0	9.44	8.69	7.97	7.28	6.61	5.96	5.35	4.77	4.22	3.70	3.23	2.79	2.38	2.02	1.69
	21.6	20.7	19.8	18.7	17.6	16.4	15.2	13.9	12.6	11.3	9.98	8.73	7.53	6.40	5.37
52.5	9.84	9.09	8.36	7.65	6.97	6.31	5.68	5.08	4.52	3.98	3.49	3.03	2.60	2.22	1.87
	22.2	21.4	20.4	19.4	18.4	17.2	16.0	14.7	13.4	12.1	10.8	9.48	8.24	7.06	5.97
53.0	10.2	9.49	8.75	8.03	7.33	6.66	6.02	5.41	4.82	4.27	3.76	3.28	2.83	2.43	2.06
	22.8	22.0	21.1	20.2	19.1	18.0	16.8	15.5	14.2	12.9	11.6	10.2	8.97	7.75	6.61
53.5	10.7	9.89	9.14	8.41	7.70	7.02	6.36	5.74	5.14	4.57	4.04	3.54	3.08	2.65	2.26
	23.3	22.6	21.8	20.8	19.8	18.7	17.5	16.3	15.0	13.7	12.4	11.0	9.73	8.47	7.28
54.0	11.1	10.3	9.54	8.80	8.08	7.39	6.72	6.07	5.46	4.88	4.33	3.81	3.33	2.88	2.48
	23.9	23.2	22.4	21.5	20.5	19.5	18.3	17.1	15.8	14.5	13.2	11.8	10.5	9.21	7.98
54.5	11.5	10.7	9.94	9.19	8.47	7.76	7.08	6.42	5.79	5.19	4.62	4.09	3.59	3.13	2.70
	24.4	23.8	23.0	22.2	21.2	20.2	19.1	17.9	16.6	15.3	14.0	12.6	11.3	9.98	8.71
55.0	11.9	11.1	10.4	9.59	8.85	8.14	7.44	6.77	6.13	5.51	4.93	4.38	3.86	3.38	2.93
	25.0	24.4	23.7	22.8	21.9	20.9	19.8	18.7	17.4	16.2	14.8	13.5	12.1	10.8	9.46
A	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
							N								

A em Erl	N 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
43.0	.079	.055	.037	.025	.017	.011	.007	.004	.003	.002	.001	.001			
	.171	.114	.075	.048	.031	.019	.012	.007	.004	.003	.002	.001			
43.5	.098	.069	.047	.032	.022	.014	.009	.006	.004	.002	.001	.001	.001		
	.220	.148	.098	.064	.041	.026	.016	.010	.006	.004	.002	.001	.001		
44.0	.121	.086	.060	.041	.028	.018	.012	.008	.005	.003	.002	.001	.001		
	.279	.190	.127	.084	.055	.035	.022	.014	.008	.005	.003	.002	.001		
44.5	.148	.106	.075	.052	.035	.024	.016	.010	.007	.004	.003	.002	.001	.001	
	.351	.242	.164	.110	.072	.047	.030	.019	.012	.007	.004	.003	.002	.001	
45.0	.180	.130	.093	.065	.045	.031	.021	.014	.009	.006	.004	.002	.001	.001	.001
	.438	.306	.210	.142	.094	.062	.040	.025	.016	.010	.006	.004	.002	.001	.001
45.5	.217	.158	.114	.081	.057	.039	.026	.018	.012	.008	.005	.003	.002	.001	.001
	.543	.383	.266	.182	.122	.081	.053	.034	.022	.013	.008	.005	.003	.002	.001
46.0	.259	.192	.140	.100	.071	.049	.034	.023	.015	.010	.006	.004	.003	.002	.001
	.667	.476	.334	.231	.157	.105	.069	.045	.029	.018	.011	.007	.004	.003	.002
46.5	.309	.230	.169	.123	.088	.062	.043	.029	.020	.013	.009	.006	.004	.002	.001
	.812	.587	.417	.291	.200	.136	.090	.059	.039	.025	.016	.010	.006	.004	.002
47.0	.365	.275	.204	.149	.108	.077	.054	.037	.025	.017	.011	.007	.005	.003	.002
	.982	.718	.516	.365	.253	.174	.117	.078	.051	.033	.021	.013	.008	.005	.003
47.5	.428	.326	.244	.181	.132	.095	.067	.047	.032	.022	.015	.010	.006	.004	.003
	1.18	.871	.633	.453	.318	.220	.150	.101	.067	.044	.028	.018	.011	.007	.004
48.0	.499	.383	.290	.217	.160	.116	.083	.058	.041	.028	.019	.013	.008	.005	.003
	1.40	1.05	.771	.557	.396	.277	.191	.130	.087	.057	.037	.024	.015	.009	.006
48.5	.579	.449	.343	.258	.192	.141	.102	.072	.051	.035	.024	.016	.011	.007	.005
	1.66	1.25	.932	.681	.490	.346	.241	.165	.112	.075	.049	.032	.020	.013	.008
49.0	.667	.522	.403	.306	.230	.170	.124	.089	.063	.044	.031	.021	.014	.009	.006
	1.95	1.49	1.12	.827	.601	.430	.302	.210	.143	.096	.064	.042	.027	.017	.011
49.5	.765	.603	.470	.361	.273	.204	.150	.109	.078	.055	.038	.026	.018	.012	.008
	2.27	1.75	1.33	.995	.731	.529	.376	.264	.182	.124	.083	.055	.036	.023	.015
50.0	.873	.694	.545	.422	.322	.243	.181	.133	.096	.068	.048	.033	.023	.015	.010
	2.63	2.05	1.58	1.19	.884	.646	.465	.329	.229	.158	.107	.071	.047	.031	.020
50.5	.990	.794	.628	.491	.379	.288	.216	.160	.117	.084	.060	.042	.029	.020	.013
	3.02	2.38	1.85	1.41	1.06	.783	.569	.407	.287	.199	.136	.092	.061	.040	.026
51.0	1.12	.903	.721	.568	.442	.339	.257	.192	.141	.103	.074	.052	.036	.025	.017
	3.45	2.75	2.16	1.67	1.26	.943	.693	.501	.357	.250	.173	.118	.079	.053	.034
51.5	1.26	1.02	.822	.653	.512	.397	.303	.229	.170	.125	.090	.065	.046	.032	.022
	3.92	3.16	2.50	1.95	1.50	1.13	.837	.612	.440	.312	.218	.150	.102	.068	.045
52.0	1.40	1.15	.933	.748	.591	.462	.356	.271	.203	.151	.110	.079	.056	.040	.027
	4.43	3.60	2.88	2.27	1.76	1.34	1.00	.742	.539	.386	.272	.189	.130	.088	.059
52.5	1.56	1.29	1.05	.851	.678	.534	.415	.319	.241	.180	.133	.097	.070	.049	.034
	4.97	4.08	3.30	2.62	2.05	1.58	1.20	.893	.656	.474	.338	.237	.164	.112	.076
53.0	1.73	1.44	1.19	.964	.775	.615	.482	.373	.285	.215	.160	.117	.085	.061	.043
	5.55	4.60	3.75	3.01	2.38	1.85	1.42	1.07	.792	.579	.417	.296	.207	.143	.097
53.5	1.91	1.60	1.33	1.09	.880	.704	.556	.434	.334	.254	.191	.142	.104	.075	.053
	6.17	5.15	4.24	3.44	2.74	2.16	1.67	1.27	.951	.702	.510	.366	.258	.180	.124
54.0	2.11	1.77	1.48	1.22	.995	.802	.639	.502	.390	.299	.227	.170	.125	.091	.066
	6.82	5.74	4.77	3.90	3.14	2.49	1.95	1.50	1.13	.845	.620	.449	.320	.225	.156
54.5	2.31	1.96	1.64	1.36	1.12	.909	.729	.578	.453	.350	.268	.202	.150	.110	.080
	7.50	6.37	5.34	4.40	3.58	2.87	2.26	1.76	1.34	1.01	.749	.548	.394	.280	.196
55.0	2.52	2.15	1.81	1.52	1.25	1.03	.829	.663	.523	.408	.314	.239	.179	.133	.097
	8.21	7.03	5.94	4.94	4.06	3.28	2.61	2.05	1.58	1.20	.899	.664	.482	.346	.244
A	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75

N

A em Erl	N 76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
43.0															
43.5															
44.0															
44.5															
45.0															
45.5															
46.0	.001														
	.001														
46.5	.001	.001													
	.001	.001													
47.0	.001	.001													
	.002	.001													
47.5	.002	.001	.001												
	.003	.002	.001												
48.0	.002	.001	.001	.001											
	.004	.002	.001	.001											
48.5	.003	.002	.001	.001											
	.005	.003	.002	.001											
49.0	.004	.002	.002	.001	.001										
	.007	.004	.003	.002	.001										
49.5	.005	.003	.002	.001	.001										
	.009	.006	.004	.002	.001										
50.0	.007	.004	.003	.002	.001	.001									
	.012	.008	.005	.003	.002	.001									
50.5	.009	.006	.004	.002	.002	.001	.001								
	.017	.011	.007	.004	.003	.002	.001								
51.0	.011	.008	.005	.003	.002	.001	.001								
	.022	.014	.009	.006	.003	.002	.001								
51.5	.015	.010	.006	.004	.003	.002	.001	.001							
	.029	.019	.012	.008	.005	.003	.002	.001							
52.0	.019	.013	.008	.006	.004	.002	.001	.001	.001						
	.039	.025	.016	.010	.006	.004	.002	.001	.001						
52.5	.024	.016	.011	.007	.005	.003	.002	.001	.001						
	.050	.033	.022	.014	.009	.005	.003	.002	.001						
53.0	.030	.021	.014	.009	.006	.004	.003	.002	.001	.001					
	.065	.043	.028	.018	.012	.007	.005	.003	.002	.001					
53.5	.037	.026	.018	.012	.008	.005	.003	.002	.001	.001	.001				
	.084	.056	.037	.024	.016	.010	.006	.004	.002	.001	.001				
54.0	.047	.033	.023	.015	.010	.007	.005	.003	.002	.001	.001				
	.107	.072	.048	.032	.021	.013	.008	.005	.003	.002	.001				
54.5	.057	.041	.028	.020	.013	.009	.006	.004	.003	.002	.001	.001			
	.135	.092	.062	.041	.027	.018	.011	.007	.005	.003	.002	.001			
55.0	.070	.050	.035	.025	.017	.011	.008	.005	.003	.002	.001	.001	.001		
	.170	.117	.080	.054	.036	.023	.015	.010	.006	.004	.002	.001	.001		
A	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

N

R em Erl

D

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
56	55.0	54.0	53.1	52.1	51.1	50.1	49.1	48.2	47.2	46.2	45.2	44.3	43.3	42.3	41.3
	.932	1.86	2.78	3.70	4.62	5.53	6.43	7.33	8.22	9.11	9.98	10.9	11.7	12.6	13.4
57	56.0	55.0	54.1	53.1	52.1	51.1	50.1	49.2	48.2	47.2	46.2	45.3	44.3	43.3	42.3
	.933	1.86	2.79	3.71	4.62	5.54	6.44	7.34	8.24	9.12	10.0	10.9	11.7	12.6	13.4
58	57.0	56.0	55.1	54.1	53.1	52.1	51.1	50.2	49.2	48.2	47.2	46.2	45.3	44.3	43.3
	.934	1.86	2.79	3.71	4.63	5.54	6.45	7.36	8.25	9.14	10.0	10.9	11.8	12.6	13.5
59	58.0	57.0	56.1	55.1	54.1	53.1	52.1	51.2	50.2	49.2	48.2	47.2	46.3	45.3	44.3
	.935	1.87	2.79	3.72	4.64	5.55	6.46	7.37	8.27	9.16	10.0	10.9	11.8	12.7	13.5
60	59.0	58.0	57.1	56.1	55.1	54.1	53.1	52.1	51.2	50.2	49.2	48.2	47.3	46.3	45.3
	.936	1.87	2.80	3.72	4.64	5.56	6.47	7.38	8.28	9.18	10.1	10.9	11.8	12.7	13.6
61	60.0	59.0	58.0	57.1	56.1	55.1	54.1	53.1	52.2	51.2	50.2	49.2	48.3	47.3	46.3
	.937	1.87	2.80	3.73	4.65	5.57	6.48	7.39	8.29	9.19	10.1	11.0	11.8	12.7	13.6
62	61.0	60.0	59.0	58.1	57.1	56.1	55.1	54.1	53.2	52.2	51.2	50.2	49.3	48.3	47.3
	.938	1.87	2.80	3.73	4.66	5.58	6.49	7.40	8.31	9.21	10.1	11.0	11.9	12.7	13.6
63	62.0	61.0	60.0	59.1	58.1	57.1	56.1	55.1	54.2	53.2	52.2	51.2	50.2	49.3	48.3
	.939	1.88	2.81	3.74	4.66	5.58	6.50	7.41	8.32	9.22	10.1	11.0	11.9	12.8	13.6
64	63.0	62.0	61.0	60.1	59.1	58.1	57.1	56.1	55.2	54.2	53.2	52.2	51.2	50.3	49.3
	.940	1.88	2.81	3.74	4.67	5.59	6.51	7.42	8.33	9.24	10.1	11.0	11.9	12.8	13.7
65	64.0	63.0	62.0	61.1	60.1	59.1	58.1	57.1	56.2	55.2	54.2	53.2	52.2	51.3	50.3
	.941	1.88	2.81	3.75	4.67	5.60	6.52	7.43	8.35	9.25	10.2	11.0	11.9	12.8	13.7
66	65.0	64.0	63.0	62.1	61.1	60.1	59.1	58.1	57.2	56.2	55.2	54.2	53.2	52.3	51.3
	.942	1.88	2.82	3.75	4.68	5.60	6.53	7.44	8.36	9.27	10.2	11.1	12.0	12.8	13.7
67	66.0	65.0	64.0	63.1	62.1	61.1	60.1	59.1	58.1	57.2	56.2	55.2	54.2	53.3	52.3
	.943	1.88	2.82	3.75	4.68	5.61	6.53	7.45	8.37	9.28	10.2	11.1	12.0	12.9	13.8
68	67.0	66.0	65.0	64.1	63.1	62.1	61.1	60.1	59.1	58.2	57.2	56.2	55.2	54.2	53.3
	.943	1.88	2.82	3.76	4.69	5.62	6.54	7.46	8.38	9.29	10.2	11.1	12.0	12.9	13.8
69	68.0	67.0	66.0	65.1	64.1	63.1	62.1	61.1	60.1	59.2	58.2	57.2	56.2	55.2	54.3
	.944	1.89	2.82	3.76	4.69	5.62	6.55	7.47	8.39	9.30	10.2	11.1	12.0	12.9	13.8
70	69.0	68.0	67.0	66.1	65.1	64.1	63.1	62.1	61.1	60.2	59.2	58.2	57.2	56.2	55.3
	.945	1.89	2.83	3.76	4.70	5.63	6.56	7.48	8.40	9.31	10.2	11.1	12.0	12.9	13.8
71	70.0	69.0	68.0	67.1	66.1	65.1	64.1	63.1	62.1	61.2	60.2	59.2	58.2	57.2	56.3
	.946	1.89	2.83	3.77	4.70	5.63	6.56	7.49	8.41	9.33	10.2	11.1	12.1	13.0	13.8
72	71.0	70.0	69.0	68.1	67.1	66.1	65.1	64.1	63.1	62.2	61.2	60.2	59.2	58.2	57.3
	.946	1.89	2.83	3.77	4.71	5.64	6.57	7.50	8.42	9.34	10.3	11.2	12.1	13.0	13.9
73	72.0	71.0	70.0	69.1	68.1	67.1	66.1	65.1	64.1	63.2	62.2	61.2	60.2	59.2	58.2
	.947	1.89	2.83	3.77	4.71	5.64	6.58	7.50	8.43	9.35	10.3	11.2	12.1	13.0	13.9
74	73.0	72.0	71.0	70.1	69.1	68.1	67.1	66.1	65.1	64.2	63.2	62.2	61.2	60.2	59.2
	.948	1.89	2.84	3.78	4.71	5.65	6.58	7.51	8.44	9.36	10.3	11.2	12.1	13.0	13.9
75	74.0	73.0	72.0	71.1	70.1	69.1	68.1	67.1	66.1	65.1	64.2	63.2	62.2	61.2	60.2
	.949	1.89	2.84	3.78	4.72	5.65	6.59	7.52	8.44	9.37	10.3	11.2	12.1	13.0	13.9
76	75.0	74.0	73.0	72.1	71.1	70.1	69.1	68.1	67.1	66.1	65.2	64.2	63.2	62.2	61.2
	.949	1.90	2.84	3.78	4.72	5.66	6.59	7.52	8.45	9.38	10.3	11.2	12.1	13.0	13.9
77	76.0	75.0	74.0	73.1	72.1	71.1	70.1	69.1	68.1	67.1	66.2	65.2	64.2	63.2	62.2
	.950	1.90	2.84	3.79	4.73	5.66	6.60	7.53	8.46	9.39	10.3	11.2	12.1	13.1	14.0
78	77.0	76.0	75.0	74.1	73.1	72.1	71.1	70.1	69.1	68.1	67.2	66.2	65.2	64.2	63.2
	.950	1.90	2.85	3.79	4.73	5.67	6.61	7.54	8.47	9.40	10.3	11.2	12.2	13.1	14.0
79	78.0	77.0	76.0	75.1	74.1	73.1	72.1	71.1	70.1	69.1	68.2	67.2	66.2	65.2	64.2
	.951	1.90	2.85	3.79	4.73	5.67	6.61	7.55	8.48	9.40	10.3	11.3	12.2	13.1	14.0
80	79.0	78.0	77.0	76.1	75.1	74.1	73.1	72.1	71.1	70.1	69.2	68.2	67.2	66.2	65.2
	.952	1.90	2.85	3.79	4.74	5.68	6.62	7.55	8.48	9.41	10.3	11.3	12.2	13.1	14.0
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

N

R em Erl

D

A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
56	40.4	39.4	38.4	37.5	36.5	35.6	34.6	33.6	32.7	31.7	30.8	29.8	28.9	27.9	27.0
	14.2	15.1	15.9	16.7	17.4	18.2	19.0	19.7	20.4	21.1	21.8	22.4	23.0	23.6	24.2
57	41.4	40.4	39.4	38.5	37.5	36.5	35.6	34.6	33.7	32.7	31.8	30.8	29.9	28.9	28.0
	14.3	15.1	15.9	16.7	17.5	18.3	19.0	19.8	20.5	21.2	21.9	22.6	23.2	23.8	24.4
58	42.4	41.4	40.4	39.5	38.5	37.5	36.6	35.6	34.6	33.7	32.7	31.8	30.8	29.9	28.9
	14.3	15.2	16.0	16.8	17.6	18.4	19.1	19.9	20.6	21.3	22.0	22.7	23.3	24.0	24.6
59	43.4	42.4	41.4	40.4	39.5	38.5	37.6	36.6	35.6	34.7	33.7	32.8	31.8	30.9	29.9
	14.4	15.2	16.0	16.8	17.6	18.4	19.2	20.0	20.7	21.4	22.1	22.8	23.5	24.1	24.8
60	44.3	43.4	42.4	41.4	40.5	39.5	38.5	37.6	36.6	35.7	34.7	33.7	32.8	31.8	30.9
	14.4	15.2	16.1	16.9	17.7	18.5	19.3	20.1	20.8	21.5	22.3	23.0	23.6	24.3	24.9
61	45.3	44.4	43.4	42.4	41.5	40.5	39.5	38.6	37.6	36.6	35.7	34.7	33.8	32.8	31.9
	14.4	15.3	16.1	17.0	17.8	18.6	19.4	20.1	20.9	21.6	22.4	23.1	23.8	24.4	25.1
62	46.3	45.4	44.4	43.4	42.4	41.5	40.5	39.5	38.6	37.6	36.7	35.7	34.7	33.8	32.8
	14.5	15.3	16.2	17.0	17.8	18.6	19.4	20.2	21.0	21.7	22.5	23.2	23.9	24.6	25.2
63	47.3	46.3	45.4	44.4	43.4	42.5	41.5	40.5	39.6	38.6	37.6	36.7	35.7	34.8	33.8
	14.5	15.4	16.2	17.0	17.9	18.7	19.5	20.3	21.1	21.8	22.6	23.3	24.0	24.7	25.4
64	48.3	47.3	46.4	45.4	44.4	43.5	42.5	41.5	40.6	39.6	38.6	37.7	36.7	35.8	34.8
	14.5	15.4	16.3	17.1	17.9	18.7	19.6	20.4	21.1	21.9	22.7	23.4	24.1	24.8	25.5
65	49.3	48.3	47.4	46.4	45.4	44.4	43.5	42.5	41.5	40.6	39.6	38.7	37.7	36.7	35.8
	14.6	15.4	16.3	17.1	18.0	18.8	19.6	20.4	21.2	22.0	22.8	23.5	24.2	25.0	25.7
66	50.3	49.3	48.4	47.4	46.4	45.4	44.5	43.5	42.5	41.6	40.6	39.6	38.7	37.7	36.8
	14.6	15.5	16.3	17.2	18.0	18.9	19.7	20.5	21.3	22.1	22.8	23.6	24.4	25.1	25.8
67	51.3	50.3	49.3	48.4	47.4	46.4	45.5	44.5	43.5	42.6	41.6	40.6	39.7	38.7	37.7
	14.6	15.5	16.4	17.2	18.1	18.9	19.7	20.5	21.4	22.1	22.9	23.7	24.5	25.2	25.9
68	52.3	51.3	50.3	49.4	48.4	47.4	46.5	45.5	44.5	43.5	42.6	41.6	40.6	39.7	38.7
	14.7	15.5	16.4	17.3	18.1	18.9	19.8	20.6	21.4	22.2	23.0	23.8	24.5	25.3	26.0
69	53.3	52.3	51.3	50.4	49.4	48.4	47.4	46.5	45.5	44.5	43.6	42.6	41.6	40.7	39.7
	14.7	15.6	16.4	17.3	18.1	19.0	19.8	20.7	21.5	22.3	23.1	23.9	24.6	25.4	26.1
70	54.3	53.3	52.3	51.4	50.4	49.4	48.4	47.5	46.5	45.5	44.6	43.6	42.6	41.7	40.7
	14.7	15.6	16.5	17.3	18.2	19.0	19.9	20.7	21.5	22.3	23.2	23.9	24.7	25.5	26.2
71	55.3	54.3	53.3	52.3	51.4	50.4	49.4	48.5	47.5	46.5	45.5	44.6	43.6	42.6	41.7
	14.7	15.6	16.5	17.4	18.2	19.1	19.9	20.8	21.6	22.4	23.2	24.0	24.8	25.6	26.3
72	56.3	55.3	54.3	53.3	52.4	51.4	50.4	49.4	48.5	47.5	46.5	45.6	44.6	43.6	42.7
	14.8	15.6	16.5	17.4	18.3	19.1	20.0	20.8	21.6	22.5	23.3	24.1	24.9	25.7	26.4
73	57.3	56.3	55.3	54.3	53.4	52.4	51.4	50.4	49.5	48.5	47.5	46.6	45.6	44.6	43.6
	14.8	15.7	16.5	17.4	18.3	19.2	20.0	20.9	21.7	22.5	23.3	24.2	25.0	25.7	26.5
74	58.3	57.3	56.3	55.3	54.4	53.4	52.4	51.4	50.5	49.5	48.5	47.5	46.6	45.6	44.6
	14.8	15.7	16.6	17.5	18.3	19.2	20.1	20.9	21.7	22.6	23.4	24.2	25.0	25.8	26.6
75	59.3	58.3	57.3	56.3	55.3	54.4	53.4	52.4	51.4	50.5	49.5	48.5	47.6	46.6	45.6
	14.8	15.7	16.6	17.5	18.4	19.2	20.1	20.9	21.8	22.6	23.5	24.3	25.1	25.9	26.7
76	60.3	59.3	58.3	57.3	56.3	55.4	54.4	53.4	52.4	51.5	50.5	49.5	48.5	47.6	46.6
	14.8	15.7	16.6	17.5	18.4	19.3	20.1	21.0	21.8	22.7	23.5	24.3	25.2	26.0	26.8
77	61.3	60.3	59.3	58.3	57.3	56.4	55.4	54.4	53.4	52.5	51.5	50.5	49.5	48.6	47.6
	14.9	15.8	16.7	17.5	18.4	19.3	20.2	21.0	21.9	22.7	23.6	24.4	25.2	26.0	26.8
78	62.2	61.3	60.3	59.3	58.3	57.4	56.4	55.4	54.4	53.4	52.5	51.5	50.5	49.6	48.6
	14.9	15.8	16.7	17.6	18.5	19.3	20.2	21.1	21.9	22.8	23.6	24.5	25.3	26.1	26.9
79	63.2	62.3	61.3	60.3	59.3	58.3	57.4	56.4	55.4	54.4	53.5	52.5	51.5	50.5	49.6
	14.9	15.8	16.7	17.6	18.5	19.4	20.2	21.1	22.0	22.8	23.7	24.5	25.3	26.2	27.0
80	64.2	63.3	62.3	61.3	60.3	59.3	58.4	57.4	56.4	55.4	54.5	53.5	52.5	51.5	50.6
	14.9	15.8	16.7	17.6	18.5	19.4	20.3	21.1	22.0	22.9	23.7	24.6	25.4	26.2	27.0
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

N

R em Erl
D

A em Erl	N 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
56	26.1	25.1	24.2	23.3	22.4	21.5	20.6	19.7	18.8	17.9	17.0	16.1	15.3	14.4	13.6
	24.7	25.2	25.6	26.0	26.4	26.7	26.9	27.1	27.2	27.3	27.3	27.2	27.0	26.8	26.4
57	27.0	26.1	25.2	24.2	23.3	22.4	21.5	20.6	19.7	18.8	17.9	17.1	16.2	15.3	14.5
	24.9	25.4	25.9	26.3	26.7	27.0	27.3	27.6	27.7	27.9	27.9	27.9	27.8	27.6	27.3
58	28.0	27.1	26.1	25.2	24.3	23.4	22.4	21.5	20.6	19.7	18.8	18.0	17.1	16.2	15.4
	25.1	25.7	26.2	26.6	27.0	27.4	27.7	28.0	28.2	28.4	28.5	28.5	28.5	28.3	28.1
59	29.0	28.0	27.1	26.2	25.2	24.3	23.4	22.5	21.6	20.7	19.8	18.9	18.0	17.1	16.3
	25.3	25.9	26.4	26.9	27.3	27.7	28.1	28.4	28.7	28.9	29.0	29.1	29.1	29.0	28.9
60	29.9	29.0	28.1	27.1	26.2	25.3	24.4	23.4	22.5	21.6	20.7	19.8	18.9	18.0	17.2
	25.5	26.1	26.6	27.2	27.6	28.1	28.5	28.8	29.1	29.3	29.5	29.7	29.7	29.7	29.6
61	30.9	30.0	29.0	28.1	27.2	26.2	25.3	24.4	23.5	22.6	21.6	20.7	19.9	19.0	18.1
	25.7	26.3	26.9	27.4	27.9	28.4	28.8	29.2	29.5	29.8	30.0	30.2	30.3	30.3	30.3
62	31.9	30.9	30.0	29.1	28.1	27.2	26.3	25.3	24.4	23.5	22.6	21.7	20.8	19.9	19.0
	25.9	26.5	27.1	27.6	28.2	28.6	29.1	29.5	29.9	30.2	30.4	30.7	30.8	30.9	30.9
63	32.9	31.9	31.0	30.0	29.1	28.2	27.2	26.3	25.4	24.5	23.5	22.6	21.7	20.8	19.9
	26.0	26.7	27.3	27.8	28.4	28.9	29.4	29.8	30.2	30.6	30.9	31.1	31.3	31.5	31.5
64	33.8	32.9	32.0	31.0	30.1	29.1	28.2	27.3	26.3	25.4	24.5	23.6	22.7	21.8	20.9
	26.2	26.8	27.5	28.1	28.6	29.1	29.6	30.1	30.5	30.9	31.3	31.6	31.8	32.0	32.1
65	34.8	33.9	32.9	32.0	31.0	30.1	29.2	28.2	27.3	26.4	25.4	24.5	23.6	22.7	21.8
	26.3	27.0	27.6	28.2	28.8	29.4	29.9	30.4	30.8	31.3	31.6	32.0	32.2	32.5	32.6
66	35.8	34.9	33.9	33.0	32.0	31.1	30.1	29.2	28.2	27.3	26.4	25.5	24.6	23.6	22.7
	26.5	27.2	27.8	28.4	29.0	29.6	30.1	30.7	31.1	31.6	32.0	32.3	32.7	32.9	33.1
67	36.8	35.8	34.9	33.9	33.0	32.0	31.1	30.1	29.2	28.3	27.3	26.4	25.5	24.6	23.7
	26.6	27.3	28.0	28.6	29.2	29.8	30.4	30.9	31.4	31.9	32.3	32.7	33.0	33.3	33.6
68	37.8	36.8	35.9	34.9	34.0	33.0	32.1	31.1	30.2	29.2	28.3	27.4	26.5	25.5	24.6
	26.7	27.4	28.1	28.8	29.4	30.0	30.6	31.1	31.7	32.2	32.6	33.0	33.4	33.7	34.0
69	38.7	37.8	36.8	35.9	34.9	34.0	33.0	32.1	31.1	30.2	29.3	28.3	27.4	26.5	25.6
	26.9	27.6	28.3	28.9	29.6	30.2	30.8	31.4	31.9	32.4	32.9	33.3	33.8	34.1	34.4
70	39.7	38.8	37.8	36.9	35.9	35.0	34.0	33.1	32.1	31.2	30.2	29.3	28.4	27.4	26.5
	27.0	27.7	28.4	29.1	29.7	30.4	31.0	31.6	32.1	32.7	33.2	33.6	34.1	34.5	34.8
71	40.7	39.8	38.8	37.8	36.9	35.9	35.0	34.0	33.1	32.1	31.2	30.3	29.3	28.4	27.5
	27.1	27.8	28.5	29.2	29.9	30.5	31.2	31.8	32.4	32.9	33.4	33.9	34.4	34.8	35.2
72	41.7	40.7	39.8	38.8	37.9	36.9	36.0	35.0	34.1	33.1	32.2	31.2	30.3	29.4	28.4
	27.2	27.9	28.6	29.3	30.0	30.7	31.3	32.0	32.6	33.1	33.7	34.2	34.7	35.1	35.5
73	42.7	41.7	40.8	39.8	38.8	37.9	36.9	36.0	35.0	34.1	33.1	32.2	31.3	30.3	29.4
	27.3	28.0	28.8	29.5	30.2	30.8	31.5	32.1	32.8	33.4	33.9	34.5	35.0	35.4	35.9
74	43.7	42.7	41.7	40.8	39.8	38.9	37.9	37.0	36.0	35.1	34.1	33.2	32.2	31.3	30.3
	27.4	28.1	28.9	29.6	30.3	31.0	31.7	32.3	32.9	33.6	34.1	34.7	35.2	35.7	36.2
75	44.7	43.7	42.7	41.8	40.8	39.8	38.9	37.9	37.0	36.0	35.1	34.1	33.2	32.2	31.3
	27.5	28.2	29.0	29.7	30.4	31.1	31.8	32.5	33.1	33.7	34.3	34.9	35.5	36.0	36.5
76	45.6	44.7	43.7	42.7	41.8	40.8	39.9	38.9	38.0	37.0	36.1	35.1	34.2	33.2	32.3
	27.5	28.3	29.1	29.8	30.5	31.3	32.0	32.6	33.3	33.9	34.5	35.1	35.7	36.2	36.7
77	46.6	45.7	44.7	43.7	42.8	41.8	40.8	39.9	38.9	38.0	37.0	36.1	35.1	34.2	33.2
	27.6	28.4	29.2	29.9	30.7	31.4	32.1	32.8	33.5	34.1	34.7	35.3	35.9	36.5	37.0
78	47.6	46.7	45.7	44.7	43.8	42.8	41.8	40.9	39.9	39.0	38.0	37.1	36.1	35.2	34.2
	27.7	28.5	29.3	30.0	30.8	31.5	32.2	32.9	33.6	34.3	34.9	35.5	36.1	36.7	37.3
79	48.6	47.6	46.7	45.7	44.7	43.8	42.8	41.9	40.9	39.9	39.0	38.0	37.1	36.1	35.2
	27.8	28.6	29.4	30.1	30.9	31.6	32.3	33.1	33.7	34.4	35.1	35.7	36.3	36.9	37.5
80	49.6	48.6	47.7	46.7	45.7	44.8	43.8	42.8	41.9	40.9	40.0	39.0	38.1	37.1	36.2
	27.9	28.6	29.4	30.2	31.0	31.7	32.5	33.2	33.9	34.6	35.2	35.9	36.5	37.1	37.7
A	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
	N														

R em Erl
D

A em Erl	N 46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
56	12.8	12.0	11.2	10.4	9.64	8.91	8.19	7.49	6.82	6.18	5.57	4.98	4.43	3.91	3.43
	26.0	25.5	24.8	24.1	23.3	22.3	21.3	20.2	19.0	17.8	16.5	15.1	13.8	12.4	11.0
57	13.6	12.8	12.0	11.2	10.5	9.70	8.96	8.24	7.55	6.88	6.23	5.62	5.04	4.48	3.96
	26.9	26.5	25.9	25.3	24.5	23.7	22.8	21.7	20.6	19.4	18.1	16.8	15.4	14.1	12.7
58	14.5	13.7	12.9	12.1	11.3	10.5	9.75	9.01	8.29	7.60	6.93	6.29	5.67	5.09	4.53
	27.8	27.5	27.0	26.4	25.7	25.0	24.1	23.2	22.1	21.0	19.8	18.5	17.1	15.8	14.4
59	15.4	14.6	13.7	12.9	12.1	11.3	10.6	9.80	9.06	8.34	7.65	6.98	6.34	5.72	5.14
	28.7	28.4	28.0	27.5	26.9	26.2	25.4	24.5	23.6	22.5	21.3	20.1	18.8	17.5	16.1
60	16.3	15.5	14.6	13.8	13.0	12.2	11.4	10.6	9.85	9.11	8.40	7.70	7.03	6.39	5.78
	29.5	29.2	28.9	28.5	28.0	27.4	26.7	25.9	25.0	24.0	22.9	21.7	20.5	19.2	17.8
61	17.2	16.4	15.5	14.7	13.8	13.0	12.2	11.4	10.6	9.90	9.16	8.45	7.75	7.09	6.44
	30.2	30.0	29.8	29.4	29.0	28.5	27.8	27.1	26.3	25.4	24.4	23.3	22.1	20.8	19.5
62	18.1	17.3	16.4	15.5	14.7	13.9	13.1	12.3	11.5	10.7	9.94	9.21	8.50	7.80	7.14
	30.9	30.8	30.6	30.3	30.0	29.5	29.0	28.3	27.6	26.7	25.8	24.8	23.7	22.5	21.2
63	19.0	18.2	17.3	16.4	15.6	14.7	13.9	13.1	12.3	11.5	10.7	9.99	9.26	8.55	7.85
	31.6	31.5	31.4	31.2	30.9	30.5	30.0	29.4	28.8	28.0	27.2	26.2	25.2	24.0	22.8
64	20.0	19.1	18.2	17.3	16.5	15.6	14.8	14.0	13.1	12.3	11.6	10.8	10.0	9.31	8.60
	32.2	32.2	32.1	31.9	31.7	31.4	31.0	30.5	29.9	29.3	28.5	27.6	26.6	25.6	24.4
65	20.9	20.0	19.1	18.2	17.4	16.5	15.7	14.8	14.0	13.2	12.4	11.6	10.8	10.1	9.36
	32.7	32.8	32.8	32.7	32.5	32.3	31.9	31.5	31.0	30.4	29.7	28.9	28.1	27.1	26.0
66	21.8	20.9	20.0	19.2	18.3	17.4	16.6	15.7	14.9	14.1	13.2	12.4	11.7	10.9	10.1
	33.3	33.4	33.4	33.4	33.3	33.1	32.8	32.5	32.1	31.5	30.9	30.2	29.4	28.5	27.5
67	22.8	21.9	21.0	20.1	19.2	18.3	17.5	16.6	15.8	14.9	14.1	13.3	12.5	11.7	10.9
	33.8	33.9	34.0	34.0	34.0	33.9	33.7	33.4	33.0	32.6	32.0	31.4	30.7	29.8	28.9
68	23.7	22.8	21.9	21.0	20.1	19.2	18.4	17.5	16.6	15.8	15.0	14.1	13.3	12.5	11.7
	34.3	34.5	34.6	34.7	34.7	34.6	34.5	34.2	33.9	33.6	33.1	32.5	31.9	31.1	30.3
69	24.6	23.7	22.8	21.9	21.0	20.2	19.3	18.4	17.5	16.7	15.8	15.0	14.2	13.4	12.6
	34.7	34.9	35.1	35.2	35.3	35.3	35.2	35.0	34.8	34.5	34.1	33.6	33.0	32.4	31.6
70	25.6	24.7	23.8	22.9	22.0	21.1	20.2	19.3	18.4	17.6	16.7	15.9	15.0	14.2	13.4
	35.1	35.4	35.6	35.8	35.9	35.9	35.9	35.8	35.6	35.4	35.0	34.6	34.1	33.5	32.9
71	26.5	25.6	24.7	23.8	22.9	22.0	21.1	20.2	19.3	18.5	17.6	16.8	15.9	15.1	14.3
	35.5	35.8	36.1	36.3	36.4	36.5	36.5	36.5	36.4	36.2	35.9	35.6	35.2	34.6	34.0
72	27.5	26.6	25.7	24.7	23.8	22.9	22.0	21.1	20.3	19.4	18.5	17.7	16.8	16.0	15.1
	35.9	36.2	36.5	36.8	37.0	37.1	37.2	37.2	37.1	37.0	36.8	36.5	36.1	35.7	35.2
73	28.5	27.5	26.6	25.7	24.8	23.9	23.0	22.1	21.2	20.3	19.4	18.5	17.7	16.8	16.0
	36.3	36.6	36.9	37.2	37.4	37.6	37.7	37.8	37.8	37.7	37.6	37.4	37.1	36.7	36.2
74	29.4	28.5	27.6	26.6	25.7	24.8	23.9	23.0	22.1	21.2	20.3	19.5	18.6	17.7	16.9
	36.6	37.0	37.3	37.7	37.9	38.1	38.3	38.4	38.4	38.4	38.3	38.2	37.9	37.6	37.2
75	30.4	29.4	28.5	27.6	26.7	25.8	24.8	23.9	23.0	22.1	21.2	20.4	19.5	18.6	17.8
	36.9	37.3	37.7	38.1	38.4	38.6	38.8	38.9	39.0	39.1	39.0	38.9	38.8	38.5	38.2
76	31.3	30.4	29.5	28.5	27.6	26.7	25.8	24.9	24.0	23.1	22.2	21.3	20.4	19.5	18.7
	37.2	37.7	38.1	38.4	38.8	39.0	39.3	39.5	39.6	39.7	39.7	39.6	39.5	39.3	39.1
77	32.3	31.4	30.4	29.5	28.6	27.6	26.7	25.8	24.9	24.0	23.1	22.2	21.3	20.4	19.6
	37.5	38.0	38.4	38.8	39.2	39.5	39.7	40.0	40.1	40.3	40.3	40.3	40.3	40.1	39.9
78	33.3	32.3	31.4	30.5	29.5	28.6	27.7	26.8	25.8	24.9	24.0	23.1	22.2	21.4	20.5
	37.8	38.3	38.7	39.1	39.5	39.9	40.2	40.4	40.7	40.8	40.9	41.0	41.0	40.9	40.7
79	34.2	33.3	32.4	31.4	30.5	29.6	28.6	27.7	26.8	25.9	25.0	24.1	23.2	22.3	21.4
	38.0	38.5	39.0	39.5	39.9	40.3	40.6	40.9	41.1	41.3	41.5	41.6	41.6	41.6	41.5
80	35.2	34.3	33.3	32.4	31.4	30.5	29.6	28.7	27.7	26.8	25.9	25.0	24.1	23.2	22.3
	38.3	38.8	39.3	39.8	40.2	40.6	41.0	41.3	41.6	41.8	42.0	42.1	42.2	42.2	42.2
A	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	N														

R em Erl
D

A em Erl	N 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
56	2.98	2.57	2.19	1.86	1.55	1.29	1.06	.857	.687	.544	.426	.329	.251	.190	.141
	9.71	8.44	7.24	6.13	5.12	4.21	3.41	2.73	2.15	1.66	1.27	.956	.708	.517	.373
57	3.48	3.03	2.61	2.24	1.90	1.59	1.32	1.09	.884	.711	.565	.444	.345	.264	.200
	11.3	9.95	8.67	7.45	6.32	5.29	4.37	3.55	2.85	2.25	1.75	1.34	1.01	.755	.554
58	4.01	3.53	3.07	2.66	2.28	1.94	1.63	1.36	1.12	.912	.736	.586	.462	.360	.277
	12.9	11.6	10.2	8.90	7.67	6.52	5.47	4.53	3.69	2.97	2.35	1.84	1.41	1.07	.803
59	4.58	4.06	3.57	3.12	2.70	2.32	1.98	1.67	1.39	1.15	.940	.760	.608	.481	.376
	14.6	13.2	11.8	10.4	9.13	7.88	6.72	5.65	4.69	3.84	3.09	2.46	1.93	1.49	1.13
60	5.19	4.63	4.11	3.62	3.17	2.75	2.36	2.02	1.70	1.42	1.18	.968	.785	.630	.500
	16.4	14.9	13.5	12.1	10.7	9.36	8.10	6.92	5.83	4.85	3.98	3.22	2.57	2.02	1.57
61	5.83	5.24	4.68	4.16	3.67	3.21	2.79	2.41	2.05	1.74	1.46	1.21	.996	.810	.652
	18.1	16.7	15.2	13.8	12.4	11.0	9.60	8.32	7.12	6.01	5.01	4.13	3.35	2.68	2.12
62	6.49	5.88	5.29	4.73	4.21	3.72	3.26	2.84	2.45	2.09	1.78	1.49	1.24	1.02	.835
	19.8	18.4	17.0	15.5	14.1	12.6	11.2	9.83	8.53	7.32	6.20	5.18	4.27	3.48	2.79
63	7.19	6.54	5.93	5.34	4.78	4.26	3.76	3.30	2.88	2.49	2.13	1.81	1.53	1.27	1.05
	21.5	20.2	18.8	17.3	15.8	14.4	12.9	11.5	10.1	8.75	7.52	6.38	5.35	4.42	3.61
64	7.90	7.24	6.59	5.98	5.39	4.83	4.31	3.81	3.35	2.92	2.53	2.17	1.85	1.56	1.30
	23.2	21.9	20.5	19.1	17.6	16.1	14.6	13.2	11.7	10.3	8.98	7.73	6.57	5.52	4.57
65	8.64	7.95	7.29	6.64	6.03	5.44	4.88	4.35	3.86	3.39	2.97	2.57	2.21	1.89	1.59
	24.8	23.6	22.3	20.9	19.4	17.9	16.4	14.9	13.4	12.0	10.5	9.20	7.93	6.76	5.69
66	9.40	8.69	8.00	7.34	6.69	6.08	5.49	4.93	4.40	3.90	3.44	3.01	2.61	2.25	1.92
	26.4	25.2	23.9	22.6	21.2	19.7	18.3	16.7	15.2	13.7	12.2	10.8	9.42	8.14	6.95
67	10.2	9.45	8.74	8.05	7.38	6.74	6.13	5.54	4.98	4.45	3.95	3.48	3.05	2.65	2.29
	27.9	26.8	25.6	24.3	23.0	21.5	20.1	18.6	17.0	15.5	14.0	12.5	11.0	9.65	8.35
68	11.0	10.2	9.50	8.79	8.10	7.43	6.79	6.17	5.58	5.02	4.49	4.00	3.53	3.09	2.69
	29.4	28.3	27.2	26.0	24.7	23.3	21.9	20.4	18.9	17.3	15.8	14.2	12.7	11.3	9.87
69	11.8	11.0	10.3	9.55	8.84	8.15	7.48	6.84	6.22	5.63	5.07	4.54	4.04	3.57	3.14
	30.8	29.8	28.7	27.6	26.4	25.1	23.7	22.2	20.7	19.2	17.6	16.1	14.5	13.0	11.5
70	12.6	11.8	11.1	10.3	9.59	8.88	8.20	7.53	6.89	6.27	5.68	5.12	4.59	4.09	3.62
	32.1	31.2	30.2	29.2	28.0	26.8	25.4	24.0	22.6	21.1	19.5	17.9	16.4	14.8	13.2
71	13.5	12.7	11.9	11.1	10.4	9.64	8.93	8.24	7.58	6.93	6.32	5.73	5.16	4.63	4.13
	33.3	32.5	31.7	30.7	29.6	28.4	27.1	25.8	24.4	22.9	21.4	19.8	18.2	16.6	15.1
72	14.3	13.5	12.7	11.9	11.2	10.4	9.69	8.98	8.29	7.62	6.98	6.36	5.77	5.21	4.68
	34.5	33.8	33.0	32.1	31.1	30.0	28.8	27.5	26.2	24.8	23.3	21.7	20.1	18.5	16.9
73	15.2	14.3	13.5	12.7	12.0	11.2	10.5	9.73	9.02	8.34	7.67	7.03	6.41	5.82	5.26
	35.7	35.0	34.3	33.5	32.5	31.5	30.4	29.2	27.9	26.6	25.1	23.6	22.0	20.5	18.8
74	16.0	15.2	14.4	13.6	12.8	12.0	11.3	10.5	9.78	9.07	8.38	7.72	7.07	6.46	5.87
	36.8	36.2	35.5	34.8	33.9	33.0	32.0	30.8	29.6	28.3	26.9	25.5	23.9	22.4	20.8
75	16.9	16.1	15.2	14.4	13.6	12.8	12.1	11.3	10.6	9.82	9.12	8.43	7.76	7.12	6.50
	37.8	37.3	36.7	36.0	35.3	34.4	33.4	32.4	31.2	30.0	28.7	27.3	25.8	24.3	22.7
76	17.8	17.0	16.1	15.3	14.5	13.7	12.9	12.1	11.3	10.6	9.87	9.16	8.47	7.81	7.17
	38.7	38.3	37.8	37.2	36.5	35.7	34.9	33.9	32.8	31.7	30.4	29.1	27.7	26.2	24.6
77	18.7	17.8	17.0	16.2	15.3	14.5	13.7	12.9	12.1	11.4	10.6	9.91	9.21	8.52	7.85
	39.7	39.3	38.9	38.3	37.7	37.0	36.2	35.3	34.3	33.3	32.1	30.8	29.5	28.0	26.5
78	19.6	18.7	17.9	17.0	16.2	15.4	14.6	13.8	13.0	12.2	11.4	10.7	9.96	9.25	8.56
	40.5	40.2	39.9	39.4	38.9	38.2	37.5	36.7	35.8	34.8	33.7	32.5	31.2	29.9	28.4
79	20.5	19.6	18.8	17.9	17.1	16.2	15.4	14.6	13.8	13.0	12.2	11.5	10.7	10.0	9.30
	41.3	41.1	40.8	40.4	39.9	39.4	38.7	38.0	37.2	36.2	35.2	34.1	32.9	31.6	30.2
80	21.4	20.5	19.7	18.8	18.0	17.1	16.3	15.4	14.6	13.8	13.0	12.3	11.5	10.8	10.0
	42.1	41.9	41.7	41.4	41.0	40.5	39.9	39.2	38.5	37.6	36.7	35.7	34.5	33.3	32.0
A	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75

N

R em Erl
D

N 76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	A em Erl
.104	.075	.054	.038	.027	.019	.013	.009	.006	.004	.002	.002	.001	.001		56
.265	.186	.129	.088	.059	.040	.026	.017	.011	.007	.004	.003	.002	.001		
.150	.111	.081	.058	.041	.029	.020	.014	.009	.006	.004	.003	.002	.001	.001	57
.401	.286	.202	.140	.096	.065	.044	.029	.019	.012	.008	.005	.003	.002	.001	
.211	.158	.117	.086	.062	.045	.032	.022	.015	.010	.007	.005	.003	.002	.001	58
.592	.430	.309	.219	.153	.106	.072	.049	.032	.021	.014	.009	.006	.004	.002	
.290	.222	.167	.125	.092	.067	.048	.034	.024	.017	.011	.008	.005	.003	.002	59
.852	.631	.461	.332	.237	.166	.115	.079	.054	.036	.024	.016	.010	.007	.004	
.392	.304	.233	.176	.132	.098	.071	.051	.037	.026	.018	.012	.009	.006	.004	60
1.20	.904	.672	.493	.357	.255	.180	.126	.087	.059	.040	.027	.018	.011	.007	
.519	.408	.317	.244	.186	.139	.104	.076	.055	.040	.028	.020	.014	.009	.006	61
1.65	1.26	.956	.714	.526	.383	.275	.195	.137	.095	.065	.044	.029	.020	.013	
.674	.538	.425	.331	.256	.195	.147	.110	.081	.059	.042	.030	.021	.015	.010	62
2.21	1.73	1.33	1.01	.758	.561	.410	.296	.211	.148	.103	.071	.048	.033	.022	
.860	.696	.557	.441	.346	.268	.205	.155	.116	.086	.063	.046	.033	.023	.016	63
2.91	2.31	1.81	1.40	1.07	.803	.597	.438	.317	.227	.161	.112	.078	.053	.036	
1.08	.885	.718	.577	.458	.360	.280	.215	.163	.123	.091	.067	.049	.035	.025	64
3.74	3.02	2.41	1.89	1.47	1.13	.850	.634	.467	.340	.244	.174	.122	.085	.058	
1.34	1.11	.911	.741	.596	.475	.374	.292	.225	.172	.130	.097	.071	.052	.038	65
4.73	3.88	3.14	2.51	1.98	1.54	1.18	.898	.673	.498	.364	.263	.187	.132	.092	
1.63	1.37	1.14	.936	.764	.616	.492	.389	.304	.236	.180	.136	.102	.076	.055	66
5.86	4.88	4.02	3.26	2.61	2.07	1.62	1.25	.948	.713	.529	.388	.282	.202	.143	
1.96	1.66	1.40	1.17	.962	.786	.636	.510	.404	.317	.246	.189	.144	.108	.080	67
7.14	6.03	5.04	4.15	3.38	2.72	2.16	1.69	1.31	.999	.754	.562	.414	.301	.217	
2.33	2.00	1.70	1.43	1.19	.988	.809	.657	.527	.419	.330	.257	.198	.151	.114	68
8.56	7.33	6.21	5.20	4.29	3.51	2.83	2.25	1.77	1.37	1.05	.797	.596	.441	.322	
2.74	2.37	2.03	1.73	1.46	1.22	1.01	.832	.677	.545	.435	.343	.268	.207	.158	69
10.1	8.77	7.52	6.38	5.35	4.44	3.63	2.93	2.34	1.85	1.44	1.11	.840	.631	.468	
3.18	2.78	2.41	2.07	1.76	1.49	1.25	1.04	.856	.698	.563	.450	.356	.279	.216	70
11.8	10.3	8.98	7.72	6.56	5.51	4.58	3.76	3.05	2.44	1.93	1.51	1.16	.886	.667	
3.66	3.22	2.82	2.44	2.10	1.80	1.52	1.28	1.07	.879	.718	.581	.466	.370	.291	71
13.5	12.0	10.6	9.19	7.92	6.74	5.68	4.72	3.89	3.16	2.53	2.01	1.57	1.22	.932	
4.17	3.70	3.26	2.86	2.48	2.14	1.83	1.55	1.31	1.09	.902	.739	.600	.482	.383	72
15.3	13.8	12.2	10.8	9.40	8.11	6.92	5.84	4.87	4.02	3.27	2.63	2.09	1.64	1.28	
4.72	4.22	3.75	3.30	2.90	2.52	2.18	1.87	1.59	1.34	1.12	.926	.760	.618	.498	73
17.2	15.6	14.0	12.5	11.0	9.62	8.31	7.10	6.01	5.02	4.15	3.39	2.73	2.18	1.72	
5.30	4.77	4.26	3.79	3.35	2.94	2.56	2.21	1.90	1.62	1.37	1.14	.949	.781	.637	74
19.1	17.5	15.9	14.3	12.7	11.2	9.83	8.51	7.29	6.17	5.17	4.28	3.50	2.83	2.27	
5.91	5.35	4.81	4.31	3.83	3.39	2.97	2.60	2.25	1.93	1.65	1.39	1.17	.973	.802	75
21.1	19.4	17.8	16.2	14.6	13.0	11.5	10.1	8.71	7.47	6.34	5.32	4.42	3.62	2.94	
6.55	5.96	5.39	4.86	4.35	3.87	3.43	3.01	2.63	2.28	1.97	1.68	1.42	1.20	.997	76
23.0	21.4	19.8	18.1	16.4	14.8	13.2	11.7	10.3	8.91	7.66	6.51	5.47	4.55	3.74	
7.21	6.59	6.00	5.44	4.90	4.39	3.92	3.47	3.05	2.67	2.32	2.00	1.71	1.45	1.22	77
25.0	23.4	21.7	20.1	18.4	16.7	15.1	13.5	11.9	10.5	9.12	7.85	6.68	5.63	4.69	
7.90	7.26	6.64	6.05	5.48	4.94	4.44	3.96	3.51	3.09	2.71	2.35	2.03	1.74	1.48	78
26.9	25.3	23.7	22.0	20.4	18.7	17.0	15.3	13.7	12.2	10.7	9.32	8.03	6.85	5.78	
8.61	7.94	7.30	6.68	6.09	5.53	4.99	4.48	4.00	3.55	3.13	2.74	2.39	2.07	1.77	79
28.8	27.3	25.7	24.0	22.4	20.7	19.0	17.3	15.6	14.0	12.4	10.9	9.53	8.22	7.03	
9.34	8.65	7.99	7.35	6.73	6.14	5.57	5.03	4.52	4.04	3.59	3.17	2.78	2.42	2.10	80
30.6	29.2	27.6	26.0	24.4	22.7	21.0	19.3	17.5	15.9	14.2	12.7	11.2	9.73	8.41	
76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	A

N

A em Erl	N 91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
56															
57															
58	.001 .001	.001 .001													
59	.001 .003	.001 .002	.001 .001												
60	.003 .005	.002 .003	.001 .002	.001 .001											
61	.004 .008	.003 .005	.002 .003	.001 .002	.001 .001										
62	.007 .014	.005 .009	.003 .006	.002 .004	.001 .002	.001 .002	.001 .001								
63	.011 .024	.008 .016	.005 .010	.003 .007	.002 .004	.002 .003	.001 .002	.001 .001							
64	.017 .040	.012 .027	.008 .018	.006 .012	.004 .008	.003 .005	.002 .003	.001 .002	.001 .001						
65	.027 .064	.019 .044	.013 .029	.009 .020	.006 .013	.004 .009	.003 .006	.002 .004	.001 .002	.001 .001	.001 .001				
66	.040 .100	.029 .070	.020 .048	.014 .032	.010 .022	.007 .015	.005 .010	.003 .006	.002 .004	.001 .003	.001 .002	.001 .001			
67	.059 .154	.043 .109	.031 .076	.022 .052	.016 .036	.011 .024	.007 .016	.005 .011	.003 .007	.002 .005	.002 .003	.001 .002	.001 .001		
68	.085 .233	.063 .166	.046 .118	.033 .082	.024 .057	.017 .039	.012 .027	.008 .018	.006 .012	.004 .008	.003 .005	.002 .003	.001 .002	.001 .001	
69	.120 .343	.090 .249	.067 .179	.049 .127	.035 .089	.025 .062	.018 .043	.013 .029	.009 .020	.006 .013	.004 .009	.003 .006	.002 .004	.001 .002	.001 .002
70	.166 .497	.126 .366	.095 .266	.071 .192	.052 .137	.038 .097	.027 .067	.019 .047	.014 .032	.010 .022	.007 .015	.005 .010	.003 .006	.002 .004	.001 .003
71	.226 .705	.174 .527	.133 .389	.100 .285	.075 .206	.055 .147	.040 .104	.029 .073	.021 .051	.015 .035	.010 .024	.007 .016	.005 .011	.003 .007	.002 .005
72	.302 .980	.236 .743	.182 .558	.139 .414	.105 .303	.079 .220	.058 .158	.043 .113	.031 .079	.022 .055	.016 .038	.011 .026	.008 .018	.005 .012	.004 .008
73	.397 1.34	.314 1.03	.246 .783	.190 .589	.146 .439	.111 .323	.083 .235	.062 .170	.046 .121	.033 .086	.024 .060	.017 .042	.012 .029	.009 .019	.006 .013
74	.514 1.79	.411 1.40	.326 1.08	.256 .824	.199 .622	.153 .465	.116 .343	.088 .251	.066 .182	.048 .130	.035 .092	.026 .065	.018 .045	.013 .031	.009 .021
75	.655 2.35	.530 1.87	.425 1.46	.338 1.13	.266 .867	.207 .656	.160 .492	.122 .365	.092 .268	.069 .194	.051 .140	.038 .100	.027 .070	.020 .049	.014 .034
76	.823 3.04	.674 2.44	.547 1.94	.440 1.53	.350 1.18	.276 .910	.216 .692	.167 .520	.128 .387	.097 .285	.073 .207	.054 .150	.040 .107	.029 .076	.021 .053
77	1.02 3.86	.845 3.15	.693 2.54	.564 2.02	.454 1.59	.363 1.24	.287 .955	.225 .728	.174 .549	.134 .410	.102 .303	.077 .221	.057 .160	.043 .115	.031 .082
78	1.25 4.83	1.04 3.99	.866 3.26	.712 2.63	.580 2.10	.469 1.66	.375 1.30	.297 1.00	.234 .765	.182 .579	.140 .433	.107 .321	.081 .236	.061 .171	.045 .123
79	1.51 5.94	1.28 4.97	1.07 4.11	.888 3.37	.731 2.72	.597 2.18	.484 1.73	.388 1.35	.308 1.05	.243 .803	.189 .610	.146 .458	.112 .340	.085 .251	.064 .183
80	1.80 7.20	1.54 6.10	1.30 5.11	1.09 4.24	.910 3.48	.751 2.82	.614 2.26	.498 1.80	.401 1.41	.319 1.10	.252 .843	.197 .641	.153 .483	.117 .360	.089 .266
A	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105

N

A em Erl	N 106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
56															
57															
58															
59															
60															
61															
62															
63															
64															
65															
66	.001 .001														
67	.001 .002	.001 .001													
68	.002 .003	.001 .002	.001 .001												
69	.003 .005	.002 .003	.001 .002	.001 .001											
70	.004 .009	.003 .006	.002 .004	.001 .002	.001 .002	.001 .001									
71	.006 .014	.004 .010	.003 .006	.002 .004	.001 .003	.001 .002	.001 .001								
72	.010 .023	.007 .016	.005 .011	.003 .007	.002 .005	.002 .003	.001 .002	.001 .001							
73	.015 .037	.011 .025	.008 .017	.005 .012	.004 .008	.003 .005	.002 .003	.001 .002	.001 .001	.001 .001					
74	.023 .058	.016 .040	.012 .028	.008 .019	.006 .013	.004 .009	.003 .006	.002 .004	.001 .003	.001 .002	.001 .001				
75	.033 .088	.024 .062	.017 .044	.012 .030	.009 .021	.006 .014	.004 .010	.003 .006	.002 .004	.001 .003	.001 .002	.001 .001			
76	.048 .132	.035 .094	.026 .067	.019 .047	.013 .033	.010 .023	.007 .016	.005 .011	.003 .007	.002 .005	.002 .003	.001 .002	.001 .001		
77	.067 .195	.050 .141	.037 .101	.027 .072	.020 .051	.014 .036	.010 .025	.007 .017	.005 .012	.004 .008	.002 .005	.002 .004	.001 .002	.001 .002	.001 .001
A	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120

N

R em Erl
D

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
82	81.0	80.0	79.0	78.0	77.1	76.1	75.1	74.1	73.1	72.1	71.2	70.2	69.2	68.2	67.2
	0.95	1.90	2.85	3.80	4.74	5.69	6.63	7.56	8.50	9.43	10.4	11.3	12.2	13.1	14.0
84	83.0	82.0	81.0	80.0	79.1	78.1	77.1	76.1	75.1	74.1	73.1	72.2	71.2	70.2	69.2
	0.95	1.91	2.86	3.80	4.75	5.69	6.64	7.57	8.51	9.45	10.4	11.3	12.2	13.2	14.1
86	85.0	84.0	83.0	82.0	81.1	80.1	79.1	78.1	77.1	76.1	75.1	74.2	73.2	72.2	71.2
	0.95	1.91	2.86	3.81	4.76	5.70	6.64	7.59	8.52	9.46	10.4	11.3	12.3	13.2	14.1
88	87.0	86.0	85.0	84.0	83.1	82.1	81.1	80.1	79.1	78.1	77.1	76.2	75.2	74.2	73.2
	0.96	1.91	2.86	3.81	4.76	5.71	6.65	7.60	8.54	9.47	10.4	11.3	12.3	13.2	14.1
90	89.0	88.0	87.0	86.0	85.1	84.1	83.1	82.1	81.1	80.1	79.1	78.1	77.2	76.2	75.2
	0.96	1.91	2.87	3.82	4.77	5.72	6.66	7.61	8.55	9.49	10.4	11.4	12.3	13.2	14.1
92	91.0	90.0	89.0	88.0	87.1	86.1	85.1	84.1	83.1	82.1	81.1	80.1	79.2	78.2	77.2
	0.96	1.91	2.87	3.82	4.77	5.72	6.67	7.62	8.56	9.50	10.4	11.4	12.3	13.2	14.2
94	93.0	92.0	91.0	90.0	89.1	88.1	87.1	86.1	85.1	84.1	83.1	82.1	81.2	80.2	79.2
	0.96	1.92	2.87	3.83	4.78	5.73	6.68	7.62	8.57	9.51	10.5	11.4	12.3	13.3	14.2
96	95.0	94.0	93.0	92.0	91.1	90.1	89.1	88.1	87.1	86.1	85.1	84.1	83.2	82.2	81.2
	0.96	1.92	2.87	3.83	4.78	5.73	6.68	7.63	8.58	9.52	10.5	11.4	12.3	13.3	14.2
98	97.0	96.0	95.0	94.0	93.1	92.1	91.1	90.1	89.1	88.1	87.1	86.1	85.1	84.2	83.2
	0.96	1.92	2.88	3.83	4.79	5.74	6.69	7.64	8.59	9.53	10.5	11.4	12.4	13.3	14.2
100	99.0	98.0	97.0	96.0	95.1	94.1	93.1	92.1	91.1	90.1	89.1	88.1	87.1	86.2	85.2
	0.96	1.92	2.88	3.84	4.79	5.75	6.70	7.65	8.60	9.55	10.5	11.4	12.4	13.3	14.3
102	101.	100.	99.0	98.0	97.1	96.1	95.1	94.1	93.1	92.1	91.1	90.1	89.1	88.2	87.2
	0.96	1.92	2.88	3.84	4.80	5.75	6.70	7.66	8.61	9.56	10.5	11.4	12.4	13.3	14.3
104	103.	102.	101.	100.	99.0	98.1	97.1	96.1	95.1	94.1	93.1	92.1	91.1	90.2	89.2
	0.96	1.92	2.88	3.84	4.80	5.76	6.71	7.66	8.62	9.56	10.5	11.5	12.4	13.3	14.3
106	105.	104.	103.	102.	101.	100.	99.1	98.1	97.1	96.1	95.1	94.1	93.1	92.1	91.2
	0.96	1.93	2.89	3.85	4.80	5.76	6.72	7.67	8.62	9.57	10.5	11.5	12.4	13.4	14.3
108	107.	106.	105.	104.	103.	102.	101.	100.	99.1	98.1	97.1	96.1	95.1	94.1	93.2
	0.96	1.93	2.89	3.85	4.81	5.77	6.72	7.68	8.63	9.58	10.5	11.5	12.4	13.4	14.3
110	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.1	98.1	97.1	96.1	95.2
	0.96	1.93	2.89	3.85	4.81	5.77	6.73	7.68	8.64	9.59	10.5	11.5	12.4	13.4	14.3
112	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.1	98.1	97.2
	0.97	1.93	2.89	3.85	4.81	5.77	6.73	7.69	8.65	9.60	10.6	11.5	12.5	13.4	14.3
114	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.1
	0.97	1.93	2.89	3.86	4.82	5.78	6.74	7.70	8.65	9.61	10.6	11.5	12.5	13.4	14.4
116	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.
	0.97	1.93	2.90	3.86	4.82	5.78	6.74	7.70	8.66	9.61	10.6	11.5	12.5	13.4	14.4
118	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.
	0.97	1.93	2.90	3.86	4.82	5.79	6.75	7.71	8.66	9.62	10.6	11.5	12.5	13.4	14.4
120	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.
	0.97	1.93	2.90	3.86	4.83	5.79	6.75	7.71	8.67	9.63	10.6	11.5	12.5	13.4	14.4
122	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.
	0.97	1.93	2.90	3.87	4.83	5.79	6.76	7.72	8.68	9.64	10.6	11.5	12.5	13.5	14.4
124	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.
	0.97	1.94	2.90	3.87	4.83	5.80	6.76	7.72	8.68	9.64	10.6	11.6	12.5	13.5	14.4
126	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.
	0.97	1.94	2.90	3.87	4.84	5.80	6.76	7.73	8.69	9.65	10.6	11.6	12.5	13.5	14.4
128	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.
	0.97	1.94	2.91	3.87	4.84	5.80	6.77	7.73	8.69	9.65	10.6	11.6	12.5	13.5	14.4
130	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.
	0.97	1.94	2.91	3.87	4.84	5.81	6.77	7.74	8.70	9.66	10.6	11.6	12.5	13.5	14.5
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
								N							

R em Erl
D

N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	A em Erl
66.2	65.3	64.3	63.3	62.3	61.3	60.4	59.4	58.4	57.4	56.4	55.5	54.5	53.5	52.5	82
15.0	15.9	16.8	17.7	18.6	19.4	20.3	21.2	22.1	22.9	23.8	24.7	25.5	26.3	27.2	
68.2	67.2	66.3	65.3	64.3	63.3	62.3	61.4	60.4	59.4	58.4	57.5	56.5	55.5	54.5	84
15.0	15.9	16.8	17.7	18.6	19.5	20.4	21.3	22.1	23.0	23.9	24.7	25.6	26.4	27.3	
70.2	69.2	68.3	67.3	66.3	65.3	64.3	63.4	62.4	61.4	60.4	59.4	58.5	57.5	56.5	86
15.0	15.9	16.8	17.7	18.6	19.5	20.4	21.3	22.2	23.1	24.0	24.8	25.7	26.5	27.4	
72.2	71.2	70.2	69.3	68.3	67.3	66.3	65.3	64.4	63.4	62.4	61.4	60.4	59.5	58.5	88
15.0	16.0	16.9	17.8	18.7	19.6	20.5	21.4	22.3	23.2	24.0	24.9	25.8	26.6	27.5	
74.2	73.2	72.2	71.3	70.3	69.3	68.3	67.3	66.3	65.4	64.4	63.4	62.4	61.5	60.5	90
15.1	16.0	16.9	17.8	18.7	19.6	20.5	21.4	22.3	23.2	24.1	25.0	25.9	26.7	27.6	
76.2	75.2	74.2	73.3	72.3	71.3	70.3	69.3	68.3	67.4	66.4	65.4	64.4	63.4	62.5	92
15.1	16.0	16.9	17.9	18.8	19.7	20.6	21.5	22.4	23.3	24.2	25.0	25.9	26.8	27.7	
78.2	77.2	76.2	75.2	74.3	73.3	72.3	71.3	70.3	69.3	68.4	67.4	66.4	65.4	64.4	94
15.1	16.0	17.0	17.9	18.8	19.7	20.6	21.5	22.4	23.3	24.2	25.1	26.0	26.9	27.7	
80.2	79.2	78.2	77.2	76.3	75.3	74.3	73.3	72.3	71.3	70.4	69.4	68.4	67.4	66.4	96
15.1	16.1	17.0	17.9	18.8	19.8	20.7	21.6	22.5	23.4	24.3	25.2	26.1	26.9	27.8	
82.2	81.2	80.2	79.2	78.2	77.3	76.3	75.3	74.3	73.3	72.3	71.4	70.4	69.4	68.4	98
15.2	16.1	17.0	17.9	18.9	19.8	20.7	21.6	22.5	23.4	24.3	25.2	26.1	27.0	27.9	
84.2	83.2	82.2	81.2	80.2	79.3	78.3	77.3	76.3	75.3	74.3	73.4	72.4	71.4	70.4	100
15.2	16.1	17.0	18.0	18.9	19.8	20.7	21.7	22.6	23.5	24.4	25.3	26.2	27.1	28.0	
86.2	85.2	84.2	83.2	82.2	81.3	80.3	79.3	78.3	77.3	76.3	75.3	74.4	73.4	72.4	102
15.2	16.1	17.1	18.0	18.9	19.9	20.8	21.7	22.6	23.5	24.4	25.3	26.2	27.1	28.0	
88.2	87.2	86.2	85.2	84.2	83.2	82.3	81.3	80.3	79.3	78.3	77.3	76.4	75.4	74.4	104
15.2	16.2	17.1	18.0	19.0	19.9	20.8	21.7	22.6	23.6	24.5	25.4	26.3	27.2	28.1	
90.2	89.2	88.2	87.2	86.2	85.2	84.3	83.3	82.3	81.3	80.3	79.3	78.3	77.4	76.4	106
15.2	16.2	17.1	18.0	19.0	19.9	20.8	21.8	22.7	23.6	24.5	25.4	26.3	27.2	28.1	
92.2	91.2	90.2	89.2	88.2	87.2	86.2	85.3	84.3	83.3	82.3	81.3	80.3	79.4	78.4	108
15.3	16.2	17.1	18.1	19.0	19.9	20.9	21.8	22.7	23.6	24.6	25.5	26.4	27.3	28.2	
94.2	93.2	92.2	91.2	90.2	89.2	88.2	87.3	86.3	85.3	84.3	83.3	82.3	81.3	80.4	110
15.3	16.2	17.2	18.1	19.0	20.0	20.9	21.8	22.7	23.7	24.6	25.5	26.4	27.3	28.2	
96.2	95.2	94.2	93.2	92.2	91.2	90.2	89.3	88.3	87.3	86.3	85.3	84.3	83.3	82.4	112
15.3	16.2	17.2	18.1	19.1	20.0	20.9	21.8	22.8	23.7	24.6	25.5	26.5	27.4	28.3	
98.2	97.2	96.2	95.2	94.2	93.2	92.2	91.2	90.3	89.3	88.3	87.3	86.3	85.3	84.3	114
15.3	16.3	17.2	18.1	19.1	20.0	20.9	21.9	22.8	23.7	24.7	25.6	26.5	27.4	28.3	
100.	99.2	98.2	97.2	96.2	95.2	94.2	93.2	92.3	91.3	90.3	89.3	88.3	87.3	86.3	116
15.3	16.3	17.2	18.2	19.1	20.0	21.0	21.9	22.8	23.8	24.7	25.6	26.5	27.5	28.4	
102.	101.	100.	99.2	98.2	97.2	96.2	95.2	94.2	93.3	92.3	91.3	90.3	89.3	88.3	118
15.3	16.3	17.2	18.2	19.1	20.1	21.0	21.9	22.9	23.8	24.7	25.6	26.6	27.5	28.4	
104.	103.	102.	101.	100.	99.2	98.2	97.2	96.2	95.3	94.3	93.3	92.3	91.3	90.3	120
15.3	16.3	17.2	18.2	19.1	20.1	21.0	22.0	22.9	23.8	24.8	25.7	26.6	27.5	28.5	
106.	105.	104.	103.	102.	101.	100.	99.2	98.2	97.3	96.3	95.3	94.3	93.3	92.3	122
15.4	16.3	17.3	18.2	19.1	20.1	21.0	22.0	22.9	23.8	24.8	25.7	26.6	27.6	28.5	
108.	107.	106.	105.	104.	103.	102.	101.	100.	99.2	98.3	97.3	96.3	95.3	94.3	124
15.4	16.3	17.3	18.2	19.2	20.1	21.1	22.0	22.9	23.9	24.8	25.7	26.7	27.6	28.5	
110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.3	98.3	97.3	96.3	126
15.4	16.3	17.3	18.2	19.2	20.1	21.1	22.0	23.0	23.9	24.8	25.8	26.7	27.6	28.6	
112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.3	98.3	128
15.4	16.3	17.3	18.3	19.2	20.1	21.1	22.0	23.0	23.9	24.9	25.8	26.7	27.7	28.6	
114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	130
15.4	16.4	17.3	18.3	19.2	20.2	21.1	22.1	23.0	23.9	24.9	25.8	26.8	27.7	28.6	
								N							A

R em Erl

D

N

A em Erl	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
82	51.6	50.6	49.6	48.7	47.7	46.7	45.8	44.8	43.8	42.9	41.9	41.0	40.0	39.0	38.1
	28.0	28.8	29.6	30.4	31.2	31.9	32.7	33.4	34.1	34.9	35.5	36.2	36.9	37.5	38.1
84	53.6	52.6	51.6	50.6	49.7	48.7	47.7	46.8	45.8	44.8	43.9	42.9	42.0	41.0	40.0
	28.1	28.9	29.7	30.5	31.3	32.1	32.9	33.6	34.4	35.1	35.8	36.5	37.2	37.9	38.5
86	55.5	54.6	53.6	52.6	51.6	50.7	49.7	48.7	47.8	46.8	45.8	44.9	43.9	43.0	42.0
	28.2	29.1	29.9	30.7	31.5	32.3	33.1	33.8	34.6	35.3	36.1	36.8	37.5	38.2	38.8
88	57.5	56.5	55.6	54.6	53.6	52.7	51.7	50.7	49.7	48.8	47.8	46.8	45.9	44.9	44.0
	28.3	29.2	30.0	30.8	31.6	32.4	33.2	34.0	34.8	35.6	36.3	37.0	37.8	38.5	39.2
90	59.5	58.5	57.5	56.6	55.6	54.6	53.7	52.7	51.7	50.7	49.8	48.8	47.9	46.9	45.9
	28.4	29.3	30.1	31.0	31.8	32.6	33.4	34.2	35.0	35.8	36.5	37.3	38.0	38.7	39.4
92	61.5	60.5	59.5	58.6	57.6	56.6	55.6	54.7	53.7	52.7	51.8	50.8	49.8	48.9	47.9
	28.5	29.4	30.2	31.1	31.9	32.7	33.5	34.3	35.1	35.9	36.7	37.5	38.2	39.0	39.7
94	63.5	62.5	61.5	60.5	59.6	58.6	57.6	56.6	55.7	54.7	53.7	52.8	51.8	50.8	49.9
	28.6	29.5	30.3	31.2	32.0	32.9	33.7	34.5	35.3	36.1	36.9	37.7	38.4	39.2	39.9
96	65.5	64.5	63.5	62.5	61.5	60.6	59.6	58.6	57.6	56.7	55.7	54.7	53.8	52.8	51.8
	28.7	29.6	30.4	31.3	32.1	33.0	33.8	34.6	35.4	36.3	37.1	37.9	38.6	39.4	40.2
98	67.4	66.5	65.5	64.5	63.5	62.6	61.6	60.6	59.6	58.7	57.7	56.7	55.7	54.8	53.8
	28.8	29.6	30.5	31.4	32.2	33.1	33.9	34.8	35.6	36.4	37.2	38.0	38.8	39.6	40.4
100	69.4	68.5	67.5	66.5	65.5	64.5	63.6	62.6	61.6	60.6	59.7	58.7	57.7	56.7	55.8
	28.8	29.7	30.6	31.5	32.3	33.2	34.0	34.9	35.7	36.5	37.4	38.2	39.0	39.8	40.6
102	71.4	70.4	69.5	68.5	67.5	66.5	65.5	64.6	63.6	62.6	61.6	60.7	59.7	58.7	57.7
	28.9	29.8	30.7	31.5	32.4	33.3	34.1	35.0	35.8	36.7	37.5	38.3	39.1	39.9	40.7
104	73.4	72.4	71.4	70.5	69.5	68.5	67.5	66.6	65.6	64.6	63.6	62.6	61.7	60.7	59.7
	29.0	29.9	30.7	31.6	32.5	33.4	34.2	35.1	35.9	36.8	37.6	38.5	39.3	40.1	40.9
106	75.4	74.4	73.4	72.5	71.5	70.5	69.5	68.5	67.6	66.6	65.6	64.6	63.6	62.7	61.7
	29.0	29.9	30.8	31.7	32.6	33.5	34.3	35.2	36.0	36.9	37.7	38.6	39.4	40.2	41.1
108	77.4	76.4	75.4	74.4	73.5	72.5	71.5	70.5	69.5	68.6	67.6	66.6	65.6	64.7	63.7
	29.1	30.0	30.9	31.8	32.7	33.5	34.4	35.3	36.1	37.0	37.9	38.7	39.5	40.4	41.2
110	79.4	78.4	77.4	76.4	75.4	74.5	73.5	72.5	71.5	70.5	69.6	68.6	67.6	66.6	65.7
	29.1	30.0	30.9	31.8	32.7	33.6	34.5	35.4	36.2	37.1	38.0	38.8	39.7	40.5	41.3
112	81.4	80.4	79.4	78.4	77.4	76.5	75.5	74.5	73.5	72.5	71.6	70.6	69.6	68.6	67.6
	29.2	30.1	31.0	31.9	32.8	33.7	34.6	35.4	36.3	37.2	38.1	38.9	39.8	40.6	41.5
114	83.4	82.4	81.4	80.4	79.4	78.4	77.5	76.5	75.5	74.5	73.5	72.6	71.6	70.6	69.6
	29.2	30.1	31.1	32.0	32.9	33.7	34.6	35.5	36.4	37.3	38.1	39.0	39.9	40.7	41.6
116	85.4	84.4	83.4	82.4	81.4	80.4	79.5	78.5	77.5	76.5	75.5	74.5	73.6	72.6	71.6
	29.3	30.2	31.1	32.0	32.9	33.8	34.7	35.6	36.5	37.4	38.2	39.1	40.0	40.8	41.7
118	87.3	86.4	85.4	84.4	83.4	82.4	81.4	80.5	79.5	78.5	77.5	76.5	75.6	74.6	73.6
	29.3	30.2	31.2	32.1	33.0	33.9	34.8	35.7	36.5	37.4	38.3	39.2	40.1	40.9	41.8
120	89.3	88.4	87.4	86.4	85.4	84.4	83.4	82.4	81.5	80.5	79.5	78.5	77.5	76.6	75.6
	29.4	30.3	31.2	32.1	33.0	33.9	34.8	35.7	36.6	37.5	38.4	39.3	40.2	41.0	41.9
122	91.3	90.3	89.4	88.4	87.4	86.4	85.4	84.4	83.5	82.5	81.5	80.5	79.5	78.5	77.6
	29.4	30.3	31.2	32.2	33.1	34.0	34.9	35.8	36.7	37.6	38.5	39.4	40.2	41.1	42.0
124	93.3	92.3	91.4	90.4	89.4	88.4	87.4	86.4	85.4	84.5	83.5	82.5	81.5	80.5	79.5
	29.4	30.4	31.3	32.2	33.1	34.0	34.9	35.8	36.7	37.6	38.5	39.4	40.3	41.2	42.1
126	95.3	94.3	93.3	92.4	91.4	90.4	89.4	88.4	87.4	86.5	85.5	84.5	83.5	82.5	81.5
	29.5	30.4	31.3	32.2	33.2	34.1	35.0	35.9	36.8	37.7	38.6	39.5	40.4	41.3	42.2
128	97.3	96.3	95.3	94.4	93.4	92.4	91.4	90.4	89.4	88.4	87.5	86.5	85.5	84.5	83.5
	29.5	30.4	31.4	32.3	33.2	34.1	35.0	36.0	36.9	37.8	38.7	39.6	40.5	41.3	42.2
130	99.3	98.3	97.3	96.3	95.4	94.4	93.4	92.4	91.4	90.4	89.4	88.5	87.5	86.5	85.5
	29.6	30.5	31.4	32.3	33.3	34.2	35.1	36.0	36.9	37.8	38.7	39.6	40.5	41.4	42.3
A	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

N

A

R em Erl

D

N

46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	A em Erl
37.1	36.2	35.3	34.3	33.4	32.4	31.5	30.6	29.6	28.7	27.8	26.9	26.0	25.1	24.2	82
38.7	39.3	39.8	40.3	40.8	41.3	41.7	42.1	42.4	42.7	43.0	43.2	43.4	43.5	43.5	
39.1	38.1	37.2	36.2	35.3	34.4	33.4	32.5	31.6	30.6	29.7	28.8	27.9	26.9	26.0	84
39.1	39.7	40.3	40.9	41.4	41.9	42.3	42.8	43.2	43.5	43.9	44.1	44.4	44.6	44.7	
41.0	40.1	39.1	38.2	37.2	36.3	35.4	34.4	33.5	32.5	31.6	30.7	29.8	28.8	27.9	86
39.5	40.1	40.7	41.3	41.9	42.4	42.9	43.4	43.8	44.3	44.6	45.0	45.3	45.5	45.8	
43.0	42.0	41.1	40.1	39.2	38.2	37.3	36.3	35.4	34.5	33.5	32.6	31.7	30.7	29.8	88
39.8	40.5	41.1	41.7	42.3	42.9	43.4	44.0	44.5	44.9	45.3	45.7	46.1	46.4	46.7	
45.0	44.0	43.0	42.1	41.1	40.2	39.2	38.3	37.3	36.4	35.4	34.5	33.6	32.6	31.7	90
40.1	40.8	41.5	42.1	42.7	43.3	43.9	44.5	45.0	45.5	46.0	46.4	46.8	47.2	47.6	
46.9	46.0	45.0	44.0	43.1	42.1	41.2	40.2	39.3	38.3	37.4	36.4	35.5	34.6	33.6	92
40.4	41.1	41.8	42.5	43.1	43.7	44.4	44.9	45.5	46.1	46.6	47.1	47.5	47.9	48.3	
48.9	47.9	47.0	46.0	45.0	44.1	43.1	42.2	41.2	40.3	39.3	38.4	37.4	36.5	35.5	94
40.7	41.4	42.1	42.8	43.5	44.1	44.8	45.4	46.0	46.5	47.1	47.6	48.1	48.6	49.0	
50.9	49.9	48.9	48.0	47.0	46.0	45.1	44.1	43.2	42.2	41.3	40.3	39.4	38.4	37.5	96
40.9	41.7	42.4	43.1	43.8	44.5	45.1	45.8	46.4	47.0	47.6	48.1	48.7	49.2	49.7	
52.8	51.9	50.9	49.9	49.0	48.0	47.0	46.1	45.1	44.2	43.2	42.3	41.3	40.4	39.4	98
41.1	41.9	42.6	43.4	44.1	44.8	45.4	46.1	46.8	47.4	48.0	48.6	49.2	49.7	50.2	
54.8	53.8	52.9	51.9	50.9	50.0	49.0	48.0	47.1	46.1	45.2	44.2	43.3	42.3	41.3	100
41.3	42.1	42.9	43.6	44.3	45.0	45.8	46.4	47.1	47.8	48.4	49.0	49.6	50.2	50.8	
56.8	55.8	54.8	53.9	52.9	51.9	51.0	50.0	49.0	48.1	47.1	46.2	45.2	44.2	43.3	102
41.5	42.3	43.1	43.8	44.6	45.3	46.0	46.7	47.4	48.1	48.8	49.4	50.0	50.6	51.2	
58.7	57.8	56.8	55.8	54.9	53.9	52.9	52.0	51.0	50.0	49.1	48.1	47.2	46.2	45.2	104
41.7	42.5	43.3	44.0	44.8	45.6	46.3	47.0	47.7	48.4	49.1	49.8	50.4	51.1	51.7	
60.7	59.8	58.8	57.8	56.8	55.9	54.9	53.9	53.0	52.0	51.0	50.1	49.1	48.2	47.2	106
41.9	42.7	43.5	44.2	45.0	45.8	46.5	47.3	48.0	48.7	49.4	50.1	50.8	51.4	52.1	
62.7	61.7	60.8	59.8	58.8	57.8	56.9	55.9	54.9	54.0	53.0	52.0	51.1	50.1	49.2	108
42.0	42.8	43.6	44.4	45.2	46.0	46.8	47.5	48.3	49.0	49.7	50.4	51.1	51.8	52.4	
64.7	63.7	62.7	61.8	60.8	59.8	58.8	57.9	56.9	55.9	55.0	54.0	53.0	52.1	51.1	110
42.2	43.0	43.8	44.6	45.4	46.2	47.0	47.7	48.5	49.2	50.0	50.7	51.4	52.1	52.8	
66.7	65.7	64.7	63.7	62.8	61.8	60.8	59.8	58.9	57.9	56.9	56.0	55.0	54.0	53.1	112
42.3	43.1	43.9	44.8	45.6	46.4	47.2	47.9	48.7	49.5	50.2	51.0	51.7	52.4	53.1	
68.6	67.7	66.7	65.7	64.7	63.8	62.8	61.8	60.8	59.9	58.9	57.9	57.0	56.0	55.0	114
42.4	43.3	44.1	44.9	45.7	46.5	47.3	48.1	48.9	49.7	50.4	51.2	51.9	52.7	53.4	
70.6	69.7	68.7	67.7	66.7	65.7	64.8	63.8	62.8	61.9	60.9	59.9	58.9	58.0	57.0	116
42.5	43.4	44.2	45.1	45.9	46.7	47.5	48.3	49.1	49.9	50.7	51.4	52.2	52.9	53.7	
72.6	71.6	70.7	69.7	68.7	67.7	66.7	65.8	64.8	63.8	62.9	61.9	60.9	59.9	59.0	118
42.6	43.5	44.3	45.2	46.0	46.8	47.7	48.5	49.3	50.1	50.9	51.6	52.4	53.2	53.9	
74.6	73.6	72.6	71.7	70.7	69.7	68.7	67.8	66.8	65.8	64.8	63.9	62.9	61.9	60.9	120
42.8	43.6	44.5	45.3	46.2	47.0	47.8	48.6	49.4	50.3	51.1	51.8	52.6	53.4	54.2	
76.6	75.6	74.6	73.6	72.7	71.7	70.7	69.7	68.8	67.8	66.8	65.8	64.9	63.9	62.9	122
42.9	43.7	44.6	45.4	46.3	47.1	48.0	48.8	49.6	50.4	51.2	52.0	52.8	53.6	54.4	
78.6	77.6	76.6	75.6	74.6	73.7	72.7	71.7	70.7	69.8	68.8	67.8	66.8	65.9	64.9	124
42.9	43.8	44.7	45.5	46.4	47.2	48.1	48.9	49.7	50.6	51.4	52.2	53.0	53.8	54.6	
80.6	79.6	78.6	77.6	76.6	75.7	74.7	73.7	72.7	71.7	70.8	69.8	68.8	67.8	66.9	126
43.0	43.9	44.8	45.6	46.5	47.4	48.2	49.0	49.9	50.7	51.5	52.4	53.2	54.0	54.8	
82.5	81.6	80.6	79.6	78.6	77.6	76.7	75.7	74.7	73.7	72.7	71.8	70.8	69.8	68.8	128
43.1	44.0	44.9	45.7	46.6	47.5	48.3	49.2	50.0	50.9	51.7	52.5	53.3	54.1	55.0	
84.5	83.5	82.6	81.6	80.6	79.6	78.6	77.7	76.7	75.7	74.7	73.7	72.8	71.8	70.8	130
43.2	44.1	45.0	45.8	46.7	47.6	48.4	49.3	50.1	51.0	51.8	52.7	53.5	54.3	55.1	
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	A

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A em Erl	N 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
82	23.3	22.4	21.5	20.6	19.7	18.9	18.0	17.2	16.3	15.5	14.7	13.9	13.1	12.4	11.6
	43.5	43.5	43.3	43.1	42.8	42.5	42.1	41.5	40.9	40.2	39.5	38.6	37.6	36.6	35.4
84	25.1	24.2	23.3	22.4	21.6	20.7	19.8	19.0	18.1	17.3	16.4	15.6	14.8	14.0	13.2
	44.8	44.8	44.8	44.7	44.5	44.3	44.0	43.6	43.2	42.6	42.0	41.3	40.4	39.5	38.5
86	27.0	26.1	25.2	24.3	23.4	22.5	21.6	20.7	19.9	19.0	18.2	17.3	16.5	15.7	14.9
	45.9	46.0	46.1	46.1	46.0	45.9	45.7	45.5	45.1	44.7	44.2	43.7	43.0	42.3	41.4
88	28.9	28.0	27.1	26.1	25.2	24.3	23.5	22.6	21.7	20.8	20.0	19.1	18.2	17.4	16.6
	46.9	47.1	47.3	47.4	47.4	47.4	47.3	47.2	46.9	46.7	46.3	45.9	45.3	44.7	44.0
90	30.8	29.9	28.9	28.0	27.1	26.2	25.3	24.4	23.5	22.6	21.8	20.9	20.0	19.2	18.3
	47.9	48.1	48.3	48.5	48.6	48.7	48.7	48.7	48.6	48.4	48.1	47.8	47.4	47.0	46.4
92	32.7	31.8	30.8	29.9	29.0	28.1	27.2	26.3	25.4	24.5	23.6	22.7	21.8	21.0	20.1
	48.7	49.0	49.3	49.5	49.7	49.9	50.0	50.0	50.0	49.9	49.8	49.6	49.3	49.0	48.6
94	34.6	33.7	32.7	31.8	30.9	30.0	29.1	28.1	27.2	26.3	25.4	24.5	23.6	22.8	21.9
	49.4	49.8	50.2	50.5	50.7	50.9	51.1	51.2	51.3	51.3	51.3	51.2	51.0	50.8	50.5
96	36.5	35.6	34.7	33.7	32.8	31.9	30.9	30.0	29.1	28.2	27.3	26.4	25.5	24.6	23.7
	50.1	50.5	50.9	51.3	51.6	51.9	52.1	52.3	52.5	52.6	52.6	52.6	52.6	52.4	52.3
98	38.5	37.5	36.6	35.6	34.7	33.8	32.8	31.9	31.0	30.1	29.2	28.2	27.3	26.4	25.5
	50.7	51.2	51.6	52.0	52.4	52.8	53.1	53.3	53.5	53.7	53.8	53.9	54.0	53.9	53.8
100	40.4	39.5	38.5	37.6	36.6	35.7	34.8	33.8	32.9	32.0	31.0	30.1	29.2	28.3	27.4
	51.3	51.8	52.3	52.7	53.1	53.5	53.9	54.2	54.5	54.7	54.9	55.1	55.2	55.3	55.3
102	42.3	41.4	40.4	39.5	38.6	37.6	36.7	35.7	34.8	33.9	32.9	32.0	31.1	30.2	29.3
	51.8	52.3	52.9	53.4	53.8	54.3	54.7	55.0	55.4	55.7	55.9	56.2	56.3	56.5	56.6
104	44.3	43.3	42.4	41.4	40.5	39.5	38.6	37.7	36.7	35.8	34.9	33.9	33.0	32.1	31.2
	52.3	52.8	53.4	53.9	54.4	54.9	55.4	55.8	56.2	56.5	56.8	57.1	57.4	57.6	57.7
106	46.2	45.3	44.3	43.4	42.4	41.5	40.5	39.6	38.6	37.7	36.8	35.8	34.9	34.0	33.0
	52.7	53.3	53.9	54.4	55.0	55.5	56.0	56.4	56.9	57.3	57.7	58.0	58.3	58.6	58.8
108	48.2	47.2	46.3	45.3	44.4	43.4	42.5	41.5	40.6	39.6	38.7	37.7	36.8	35.9	34.9
	53.1	53.7	54.3	54.9	55.5	56.0	56.6	57.1	57.5	58.0	58.4	58.8	59.2	59.5	59.8
110	50.1	49.2	48.2	47.3	46.3	45.4	44.4	43.5	42.5	41.6	40.6	39.7	38.7	37.8	36.9
	53.5	54.1	54.7	55.4	56.0	56.5	57.1	57.6	58.1	58.6	59.1	59.5	59.9	60.3	60.6
112	52.1	51.1	50.2	49.2	48.3	47.3	46.4	45.4	44.4	43.5	42.5	41.6	40.7	39.7	38.8
	53.8	54.5	55.1	55.8	56.4	57.0	57.6	58.1	58.7	59.2	59.7	60.2	60.6	61.1	61.4
114	54.1	53.1	52.1	51.2	50.2	49.3	48.3	47.3	46.4	45.4	44.5	43.5	42.6	41.6	40.7
	54.1	54.8	55.5	56.1	56.8	57.4	58.0	58.6	59.2	59.8	60.3	60.8	61.3	61.7	62.2
116	56.0	55.1	54.1	53.1	52.2	51.2	50.3	49.3	48.3	47.4	46.4	45.5	44.5	43.6	42.6
	54.4	55.1	55.8	56.5	57.1	57.8	58.4	59.1	59.7	60.2	60.8	61.4	61.9	62.4	62.8
118	58.0	57.0	56.1	55.1	54.1	53.2	52.2	51.3	50.3	49.3	48.4	47.4	46.5	45.5	44.6
	54.7	55.4	56.1	56.8	57.5	58.2	58.8	59.5	60.1	60.7	61.3	61.9	62.4	62.9	63.5
120	60.0	59.0	58.0	57.1	56.1	55.1	54.2	53.2	52.2	51.3	50.3	49.4	48.4	47.5	46.5
	54.9	55.6	56.4	57.1	57.8	58.5	59.2	59.8	60.5	61.1	61.7	62.3	62.9	63.5	64.0
122	61.9	61.0	60.0	59.0	58.1	57.1	56.1	55.2	54.2	53.2	52.3	51.3	50.4	49.4	48.5
	55.1	55.9	56.6	57.4	58.1	58.8	59.5	60.2	60.9	61.5	62.2	62.8	63.4	64.0	64.5
124	63.9	62.9	62.0	61.0	60.0	59.1	58.1	57.1	56.2	55.2	54.2	53.3	52.3	51.4	50.4
	55.4	56.1	56.9	57.6	58.4	59.1	59.8	60.5	61.2	61.9	62.5	63.2	63.8	64.4	65.0
126	65.9	64.9	63.9	63.0	62.0	61.0	60.1	59.1	58.1	57.2	56.2	55.2	54.3	53.3	52.4
	55.6	56.3	57.1	57.9	58.6	59.4	60.1	60.8	61.5	62.2	62.9	63.6	64.2	64.9	65.5
128	67.9	66.9	65.9	64.9	64.0	63.0	62.0	61.1	60.1	59.1	58.2	57.2	56.2	55.3	54.3
	55.8	56.5	57.3	58.1	58.9	59.6	60.4	61.1	61.8	62.5	63.2	63.9	64.6	65.2	65.9
130	69.8	68.9	67.9	66.9	65.9	65.0	64.0	63.0	62.1	61.1	60.1	59.2	58.2	57.2	56.3
	55.9	56.7	57.5	58.3	59.1	59.9	60.6	61.4	62.1	62.8	63.5	64.2	64.9	65.6	66.3
A	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75

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A em Erl	N 76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
82	10.9	10.1	9.43	8.74	8.08	7.44	6.82	6.22	5.66	5.12	4.60	4.12	3.67	3.25	2.86
	34.1	32.8	31.4	29.9	28.3	26.7	25.0	23.3	21.6	19.8	18.1	16.4	14.7	13.1	11.6
84	12.4	11.7	10.9	10.2	9.51	8.83	8.17	7.52	6.91	6.31	5.74	5.20	4.69	4.20	3.75
	37.4	36.3	35.0	33.6	32.2	30.6	29.0	27.4	25.7	24.0	22.2	20.4	18.7	16.9	15.2
86	14.1	13.3	12.5	11.8	11.0	10.3	9.60	8.92	8.25	7.61	6.99	6.40	5.83	5.29	4.77
	40.5	39.4	38.3	37.1	35.8	34.4	32.9	31.4	29.8	28.1	26.4	24.6	22.8	21.0	19.2
88	15.8	14.9	14.2	13.4	12.6	11.8	11.1	10.4	9.68	9.00	8.34	7.70	7.08	6.48	5.91
	43.3	42.4	41.4	40.4	39.2	38.0	36.6	35.2	33.7	32.1	30.5	28.8	27.0	25.2	23.4
90	17.5	16.6	15.8	15.0	14.2	13.4	12.7	11.9	11.2	10.5	9.77	9.09	8.42	7.78	7.16
	45.8	45.1	44.2	43.3	42.3	41.3	40.1	38.8	37.4	36.0	34.5	32.9	31.2	29.5	27.7
92	19.2	18.4	17.6	16.7	15.9	15.1	14.3	13.5	12.8	12.0	11.3	10.6	9.85	9.17	8.51
	48.1	47.5	46.8	46.1	45.2	44.3	43.3	42.2	41.0	39.7	38.3	36.8	35.2	33.6	31.9
94	21.0	20.2	19.3	18.5	17.6	16.8	16.0	15.2	14.4	13.6	12.8	12.1	11.4	10.6	9.93
	50.1	49.7	49.2	48.6	47.9	47.1	46.2	45.3	44.2	43.1	41.8	40.5	39.1	37.6	36.0
96	22.8	21.9	21.1	20.2	19.4	18.5	17.7	16.9	16.1	15.3	14.5	13.7	12.9	12.2	11.4
	52.0	51.7	51.3	50.8	50.3	49.6	48.9	48.1	47.2	46.2	45.1	44.0	42.7	41.3	39.9
98	24.7	23.8	22.9	22.0	21.1	20.3	19.4	18.6	17.8	16.9	16.1	15.3	14.5	13.8	13.0
	53.7	53.5	53.2	52.9	52.4	51.9	51.4	50.7	50.0	49.1	48.2	47.2	46.1	44.9	43.6
100	26.5	25.6	24.7	23.8	22.9	22.1	21.2	20.4	19.5	18.7	17.8	17.0	16.2	15.4	14.6
	55.2	55.1	54.9	54.7	54.4	54.0	53.6	53.1	52.5	51.8	51.0	50.1	49.2	48.1	47.0
102	28.4	27.5	26.6	25.7	24.8	23.9	23.0	22.1	21.3	20.4	19.6	18.7	17.9	17.1	16.3
	56.6	56.6	56.5	56.4	56.2	55.9	55.6	55.2	54.7	54.2	53.5	52.8	52.0	51.1	50.1
104	30.2	29.3	28.4	27.5	26.6	25.7	24.8	23.9	23.1	22.2	21.3	20.5	19.6	18.8	18.0
	57.9	57.9	57.9	57.9	57.8	57.6	57.4	57.1	56.8	56.4	55.9	55.3	54.6	53.9	53.0
106	32.1	31.2	30.3	29.4	28.5	27.6	26.7	25.8	24.9	24.0	23.1	22.3	21.4	20.6	19.7
	59.0	59.1	59.2	59.3	59.3	59.2	59.1	58.9	58.7	58.3	58.0	57.5	57.0	56.4	55.7
108	34.0	33.1	32.2	31.3	30.3	29.4	28.5	27.6	26.7	25.8	24.9	24.1	23.2	22.3	21.5
	60.0	60.2	60.4	60.5	60.6	60.6	60.6	60.5	60.4	60.1	59.9	59.5	59.1	58.7	58.1
110	35.9	35.0	34.1	33.1	32.2	31.3	30.4	29.5	28.6	27.7	26.8	25.9	25.0	24.1	23.3
	60.9	61.2	61.4	61.6	61.8	61.9	61.9	61.9	61.9	61.8	61.6	61.4	61.1	60.7	60.3
112	37.8	36.9	36.0	35.0	34.1	33.2	32.3	31.4	30.4	29.5	28.6	27.7	26.8	25.9	25.1
	61.8	62.1	62.4	62.7	62.9	63.0	63.2	63.3	63.3	63.3	63.2	63.1	62.9	62.6	62.3
114	39.8	38.8	37.9	36.9	36.0	35.1	34.2	33.2	32.3	31.4	30.5	29.6	28.7	27.8	26.9
	62.6	62.9	63.3	63.6	63.9	64.1	64.3	64.5	64.6	64.6	64.6	64.6	64.5	64.4	64.1
116	41.7	40.7	39.8	38.9	37.9	37.0	36.1	35.1	34.2	33.3	32.4	31.5	30.5	29.6	28.7
	63.3	63.7	64.1	64.5	64.8	65.1	65.3	65.5	65.7	65.9	65.9	66.0	66.0	65.9	65.8
118	43.6	42.7	41.7	40.8	39.8	38.9	38.0	37.0	36.1	35.2	34.3	33.3	32.4	31.5	30.6
	63.9	64.4	64.8	65.2	65.6	66.0	66.3	66.5	66.8	67.0	67.1	67.2	67.3	67.3	67.3
120	45.6	44.6	43.7	42.7	41.8	40.8	39.9	38.9	38.0	37.1	36.2	35.2	34.3	33.4	32.5
	64.5	65.0	65.5	66.0	66.4	66.8	67.1	67.4	67.7	68.0	68.2	68.4	68.5	68.6	68.7
122	47.5	46.5	45.6	44.6	43.7	42.8	41.8	40.9	39.9	39.0	38.1	37.1	36.2	35.3	34.4
	65.1	65.6	66.1	66.6	67.1	67.5	67.9	68.3	68.6	68.9	69.2	69.5	69.7	69.8	69.9
124	49.4	48.5	47.5	46.6	45.6	44.7	43.7	42.8	41.8	40.9	40.0	39.0	38.1	37.2	36.2
	65.6	66.2	66.7	67.2	67.7	68.2	68.6	69.0	69.4	69.8	70.1	70.4	70.7	70.9	71.1
126	51.4	50.4	49.5	48.5	47.6	46.6	45.7	44.7	43.8	42.8	41.9	41.0	40.0	39.1	38.1
	66.1	66.7	67.2	67.8	68.3	68.8	69.3	69.7	70.2	70.6	71.0	71.3	71.6	71.9	72.1
128	53.3	52.4	51.4	50.5	49.5	48.6	47.6	46.7	45.7	44.8	43.8	42.9	41.9	41.0	40.1
	66.5	67.1	67.7	68.3	68.8	69.4	69.9	70.4	70.9	71.3	71.7	72.1	72.5	72.8	73.1
130	55.3	54.3	53.4	52.4	51.5	50.5	49.6	48.6	47.6	46.7	45.7	44.8	43.9	42.9	42.0
	66.9	67.6	68.2	68.8	69.4	69.9	70.5	71.0	71.5	72.0	72.4	72.9	73.3	73.6	74.0
A	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

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A em Erl \ N	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
82	2.49	2.16	1.87	1.60	1.35	1.14	0.95	0.79	0.65	0.53	0.43	0.34	0.27	0.21	0.17
	10.1	8.80	7.55	6.42	5.40	4.49	3.70	3.02	2.43	1.94	1.53	1.20	0.93	0.71	0.54
84	3.32	2.93	2.56	2.23	1.93	1.65	1.41	1.19	1.00	0.83	0.68	0.56	0.45	0.37	0.29
	13.6	12.0	10.6	9.19	7.91	6.74	5.69	4.76	3.93	3.22	2.61	2.09	1.66	1.30	1.01
86	4.28	3.83	3.40	3.00	2.63	2.30	1.99	1.71	1.46	1.24	1.04	0.87	0.72	0.59	0.48
	17.5	15.8	14.1	12.5	11.0	9.58	8.27	7.07	5.99	5.02	4.17	3.43	2.79	2.24	1.79
88	5.37	4.85	4.36	3.90	3.47	3.07	2.70	2.36	2.05	1.77	1.51	1.29	1.09	0.91	0.76
	21.6	19.8	18.0	16.3	14.6	13.0	11.4	9.98	8.64	7.41	6.30	5.30	4.41	3.64	2.97
90	6.57	6.00	5.45	4.93	4.44	3.98	3.55	3.14	2.77	2.43	2.11	1.83	1.57	1.34	1.13
	25.9	24.0	22.2	20.4	18.6	16.8	15.1	13.4	11.8	10.4	9.01	7.75	6.60	5.58	4.66
92	7.86	7.24	6.65	6.08	5.53	5.01	4.52	4.06	3.62	3.22	2.84	2.49	2.17	1.88	1.62
	30.2	28.4	26.5	24.7	22.8	20.9	19.1	17.3	15.6	13.9	12.3	10.8	9.38	8.09	6.92
94	9.25	8.59	7.95	7.33	6.73	6.16	5.61	5.09	4.60	4.13	3.69	3.29	2.91	2.56	2.23
	34.3	32.6	30.8	29.0	27.2	25.3	23.4	21.5	19.6	17.8	16.0	14.3	12.7	11.2	9.76
96	10.7	10.0	9.33	8.67	8.03	7.41	6.81	6.24	5.69	5.17	4.67	4.21	3.77	3.36	2.97
	38.4	36.8	35.1	33.3	31.5	29.7	27.8	25.9	24.0	22.1	20.2	18.3	16.5	14.8	13.2
98	12.2	11.5	10.8	10.1	9.41	8.75	8.11	7.49	6.89	6.32	5.77	5.25	4.75	4.28	3.84
	42.2	40.7	39.2	37.5	35.8	34.1	32.2	30.4	28.4	26.5	24.6	22.6	20.7	18.9	17.0
100	13.8	13.1	12.3	11.6	10.9	10.2	9.49	8.83	8.19	7.57	6.97	6.40	5.85	5.32	4.83
	45.8	44.4	43.0	41.5	40.0	38.3	36.6	34.8	32.9	31.0	29.1	27.1	25.2	23.2	21.3
102	15.5	14.7	13.9	13.1	12.4	11.7	11.0	10.3	9.57	8.91	8.27	7.65	7.05	6.48	5.93
	49.1	47.9	46.7	45.3	43.9	42.4	40.7	39.1	37.3	35.5	33.6	31.7	29.7	27.8	25.8
104	17.2	16.3	15.5	14.8	14.0	13.2	12.5	11.7	11.0	10.3	9.65	8.99	8.35	7.73	7.13
	52.1	51.1	50.0	48.8	47.5	46.2	44.7	43.2	41.5	39.8	38.1	36.2	34.3	32.4	30.4
106	18.9	18.0	17.2	16.4	15.6	14.8	14.1	13.3	12.6	11.8	11.1	10.4	9.73	9.07	8.43
	54.9	54.1	53.1	52.1	51.0	49.7	48.4	47.0	45.6	44.0	42.3	40.6	38.8	36.9	35.0
108	20.6	19.8	18.9	18.1	17.3	16.5	15.7	14.9	14.1	13.4	12.6	11.9	11.2	10.5	9.81
	57.5	56.8	56.0	55.1	54.1	53.1	51.9	50.7	49.3	47.9	46.4	44.8	43.1	41.4	39.5
110	22.4	21.5	20.7	19.8	19.0	18.2	17.4	16.6	15.8	15.0	14.2	13.4	12.7	12.0	11.3
	59.8	59.2	58.6	57.8	57.0	56.1	55.1	54.0	52.8	51.6	50.2	48.8	47.2	45.6	43.9
112	24.2	23.3	22.5	21.6	20.7	19.9	19.1	18.2	17.4	16.6	15.8	15.0	14.3	13.5	12.8
	61.9	61.5	61.0	60.4	59.7	58.9	58.1	57.1	56.1	55.0	53.8	52.5	51.1	49.6	48.1
114	26.0	25.1	24.2	23.4	22.5	21.7	20.8	20.0	19.1	18.3	17.5	16.7	15.9	15.1	14.3
	63.9	63.5	63.1	62.6	62.1	61.5	60.8	60.0	59.1	58.1	57.1	55.9	54.7	53.4	52.0
116	27.8	26.9	26.1	25.2	24.3	23.4	22.6	21.7	20.9	20.0	19.2	18.4	17.6	16.8	16.0
	65.6	65.4	65.1	64.7	64.3	63.8	63.2	62.6	61.8	61.0	60.1	59.1	58.1	56.9	55.7
118	29.7	28.8	27.9	27.0	26.1	25.2	24.4	23.5	22.6	21.8	20.9	20.1	19.3	18.4	17.6
	67.2	67.1	66.9	66.6	66.3	65.9	65.5	65.0	64.4	63.7	62.9	62.1	61.2	60.2	59.1
120	31.6	30.6	29.7	28.8	27.9	27.1	26.2	25.3	24.4	23.6	22.7	21.8	21.0	20.2	19.3
	68.7	68.6	68.5	68.4	68.2	67.9	67.6	67.1	66.7	66.1	65.5	64.8	64.0	63.1	62.2
122	33.4	32.5	31.6	30.7	29.8	28.9	28.0	27.1	26.2	25.4	24.5	23.6	22.8	21.9	21.1
	70.0	70.1	70.0	70.0	69.8	69.7	69.4	69.1	68.8	68.3	67.8	67.3	66.6	65.9	65.1
124	35.3	34.4	33.5	32.6	31.7	30.7	29.8	28.9	28.1	27.2	26.3	25.4	24.5	23.7	22.8
	71.2	71.3	71.4	71.4	71.4	71.3	71.2	71.0	70.7	70.4	70.0	69.5	69.0	68.4	67.7
126	37.2	36.3	35.4	34.4	33.5	32.6	31.7	30.8	29.9	29.0	28.1	27.2	26.3	25.5	24.6
	72.4	72.5	72.7	72.7	72.8	72.8	72.7	72.6	72.4	72.2	71.9	71.6	71.2	70.7	70.2
128	39.1	38.2	37.3	36.3	35.4	34.5	33.6	32.7	31.8	30.9	29.9	29.1	28.2	27.3	26.4
	73.4	73.6	73.8	73.9	74.1	74.1	74.2	74.1	74.1	73.9	73.7	73.5	73.2	72.8	72.4
130	41.0	40.1	39.2	38.2	37.3	36.4	35.5	34.5	33.6	32.7	31.8	30.9	30.0	29.1	28.2
	74.3	74.6	74.8	75.1	75.2	75.4	75.5	75.5	75.5	75.5	75.4	75.2	75.0	74.8	74.4
A \ N	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105

A N

N \ A em Erl	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
82	0.13	0.10	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01				
	0.40	0.30	0.22	0.16	0.12	0.08	0.06	0.04	0.03	0.02	0.01				
84	0.23	0.18	0.14	0.11	0.08	0.06	0.05	0.03	0.03	0.02	0.01	0.01	0.01		
	0.78	0.59	0.45	0.33	0.25	0.18	0.13	0.10	0.07	0.05	0.03	0.02	0.02		
86	0.39	0.31	0.25	0.19	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01
	1.41	1.10	0.85	0.65	0.50	0.37	0.28	0.21	0.15	0.11	0.08	0.06	0.04	0.03	0.02
88	0.62	0.51	0.41	0.33	0.26	0.21	0.16	0.13	0.10	0.08	0.06	0.04	0.03	0.02	0.02
	2.41	1.93	1.53	1.20	0.93	0.72	0.55	0.41	0.31	0.23	0.17	0.12	0.09	0.06	0.05
90	0.95	0.79	0.66	0.54	0.44	0.35	0.28	0.23	0.18	0.14	0.11	0.08	0.06	0.05	0.04
	3.86	3.17	2.57	2.07	1.65	1.30	1.01	0.79	0.60	0.46	0.34	0.26	0.19	0.14	0.10
92	1.39	1.18	0.99	0.83	0.69	0.57	0.46	0.38	0.30	0.24	0.19	0.15	0.12	0.09	0.07
	5.86	4.92	4.08	3.36	2.74	2.21	1.77	1.40	1.10	0.86	0.66	0.50	0.38	0.29	0.21
94	1.94	1.67	1.43	1.22	1.03	0.87	0.72	0.60	0.49	0.40	0.32	0.26	0.20	0.16	0.13
	8.44	7.24	6.15	5.17	4.31	3.56	2.92	2.36	1.90	1.51	1.19	0.93	0.72	0.55	0.42
96	2.62	2.29	2.00	1.73	1.48	1.27	1.07	0.90	0.75	0.63	0.52	0.42	0.34	0.27	0.22
	11.6	10.1	8.79	7.56	6.44	5.44	4.55	3.77	3.10	2.52	2.03	1.62	1.29	1.01	0.79
98	3.43	3.04	2.68	2.35	2.05	1.78	1.53	1.31	1.11	0.94	0.79	0.66	0.54	0.44	0.36
	15.3	13.6	12.0	10.5	9.15	7.89	6.74	5.71	4.79	3.98	3.28	2.68	2.17	1.74	1.39
100	4.35	3.91	3.49	3.11	2.75	2.41	2.11	1.83	1.58	1.36	1.16	0.98	0.82	0.69	0.57
	19.4	17.5	15.8	14.1	12.4	10.9	9.51	8.22	7.04	5.98	5.03	4.20	3.47	2.85	2.31
102	5.40	4.90	4.43	3.98	3.56	3.17	2.81	2.47	2.17	1.89	1.63	1.40	1.20	1.02	0.86
	23.8	21.8	19.9	18.0	16.2	14.5	12.9	11.3	9.88	8.55	7.35	6.26	5.28	4.42	3.67
104	6.55	6.00	5.48	4.97	4.50	4.05	3.63	3.24	2.87	2.53	2.22	1.94	1.68	1.45	1.24
	28.4	26.4	24.4	22.4	20.4	18.5	16.7	15.0	13.3	11.7	10.2	8.89	7.66	6.54	5.54
106	7.81	7.21	6.63	6.08	5.55	5.05	4.57	4.12	3.70	3.30	2.93	2.59	2.28	1.99	1.73
	33.0	31.0	29.0	27.0	25.0	22.9	21.0	19.1	17.2	15.4	13.7	12.1	10.6	9.24	7.97
108	9.14	8.50	7.88	7.28	6.71	6.15	5.62	5.12	4.64	4.19	3.77	3.37	3.00	2.65	2.34
	37.6	35.7	33.7	31.7	29.6	27.6	25.5	23.5	21.5	19.6	17.7	15.9	14.1	12.5	11.0
110	10.6	9.88	9.22	8.58	7.96	7.36	6.78	6.23	5.70	5.19	4.71	4.26	3.83	3.43	3.06
	42.1	40.3	38.4	36.4	34.4	32.3	30.3	28.2	26.1	24.1	22.0	20.1	18.2	16.3	14.6
112	12.0	11.3	10.6	9.96	9.30	8.66	8.03	7.43	6.86	6.30	5.77	5.27	4.78	4.33	3.90
	46.4	44.7	42.9	41.0	39.1	37.1	35.1	33.0	30.9	28.8	26.7	24.6	22.6	20.6	18.7
114	13.6	12.8	12.1	11.4	10.7	10.0	9.37	8.73	8.11	7.51	6.93	6.38	5.84	5.34	4.85
	50.5	48.9	47.2	45.5	43.6	41.8	39.8	37.8	35.7	33.6	31.5	29.4	27.3	25.2	23.1
116	15.2	14.4	13.7	12.9	12.2	11.5	10.8	10.1	9.45	8.80	8.18	7.58	7.00	6.45	5.92
	54.3	52.9	51.3	49.7	48.0	46.3	44.4	42.5	40.5	38.5	36.4	34.3	32.2	30.0	27.9
118	16.8	16.0	15.3	14.5	13.7	13.0	12.3	11.6	10.9	10.2	9.52	8.88	8.26	7.66	7.08
	57.9	56.6	55.2	53.8	52.2	50.6	48.8	47.0	45.2	43.2	41.2	39.2	37.1	34.9	32.8
120	18.5	17.7	16.9	16.1	15.3	14.6	13.8	13.1	12.3	11.6	10.9	10.3	9.59	8.95	8.33
	61.2	60.0	58.8	57.5	56.1	54.6	53.1	51.4	49.7	47.8	45.9	44.0	41.9	39.9	37.7
122	20.2	19.4	18.6	17.8	17.0	16.2	15.4	14.6	13.9	13.1	12.4	11.7	11.0	10.3	9.67
	64.2	63.2	62.2	61.0	59.8	58.4	57.0	55.5	53.9	52.2	50.5	48.6	46.7	44.7	42.7
124	22.0	21.1	20.3	19.4	18.6	17.8	17.0	16.2	15.5	14.7	13.9	13.2	12.5	11.8	11.1
	67.0	66.2	65.2	64.2	63.2	62.0	60.7	59.4	57.9	56.4	54.8	53.1	51.3	49.4	47.5
126	23.7	22.9	22.0	21.2	20.3	19.5	18.7	17.9	17.1	16.3	15.5	14.8	14.0	13.3	12.5
	69.6	68.9	68.1	67.2	66.3	65.3	64.2	63.0	61.7	60.3	58.8	57.3	55.6	53.9	52.1
128	25.5	24.6	23.8	22.9	22.1	21.2	20.4	19.6	18.8	18.0	17.2	16.4	15.6	14.8	14.1
	71.9	71.3	70.7	70.0	69.2	68.3	67.3	66.3	65.1	63.9	62.6	61.2	59.7	58.1	56.5
130	27.3	26.4	25.6	24.7	23.8	23.0	22.1	21.3	20.5	19.6	18.8	18.0	17.2	16.4	15.7
	74.1	73.6	73.1	72.5	71.8	71.1	70.3	69.4	68.4	67.3	66.1	64.9	63.6	62.1	60.6
N \ A	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120

N A

A em Erl	N 121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
82															
84															
86	0.01 0.01														
88	0.01 0.03	0.01 0.02	0.01 0.02												
90	0.03 0.07	0.02 0.05	0.01 0.04	0.01 0.03	0.01 0.02	0.01 0.01									
92	0.05 0.16	0.04 0.12	0.03 0.08	0.02 0.06	0.02 0.04	0.01 0.03	0.01 0.02	0.01 0.02							
94	0.10 0.32	0.08 0.24	0.06 0.18	0.04 0.13	0.03 0.10	0.02 0.07	0.02 0.05	0.01 0.04	0.01 0.03	0.01 0.02	0.01 0.01				
96	0.17 0.61	0.14 0.46	0.11 0.35	0.08 0.26	0.06 0.20	0.05 0.15	0.04 0.11	0.03 0.08	0.02 0.06	0.01 0.04	0.01 0.03	0.01 0.02	0.01 0.01		
98	0.29 1.09	0.23 0.85	0.19 0.66	0.15 0.51	0.11 0.39	0.09 0.29	0.07 0.22	0.05 0.16	0.04 0.12	0.03 0.09	0.02 0.06	0.02 0.05	0.01 0.03	0.01 0.02	0.01 0.02
100	0.47 1.86	0.38 1.49	0.31 1.18	0.25 0.92	0.20 0.72	0.16 0.56	0.12 0.43	0.10 0.32	0.07 0.24	0.06 0.18	0.04 0.14	0.03 0.10	0.03 0.07	0.02 0.05	0.01 0.04
102	0.72 3.02	0.60 2.46	0.49 1.99	0.40 1.60	0.33 1.27	0.26 1.00	0.21 0.78	0.17 0.61	0.13 0.47	0.10 0.36	0.08 0.27	0.06 0.20	0.05 0.15	0.04 0.11	0.03 0.08
104	1.06 4.65	0.89 3.87	0.75 3.19	0.62 2.61	0.52 2.12	0.42 1.71	0.35 1.36	0.28 1.08	0.23 0.85	0.18 0.66	0.14 0.51	0.11 0.39	0.09 0.30	0.07 0.22	0.05 0.17
106	1.50 6.82	1.28 5.79	1.09 4.88	0.93 4.07	0.78 3.37	0.65 2.77	0.54 2.26	0.45 1.82	0.37 1.46	0.30 1.16	0.24 0.91	0.19 0.71	0.15 0.55	0.12 0.43	0.10 0.33
108	2.05 9.58	1.78 8.29	1.54 7.11	1.33 6.06	1.13 5.11	0.96 4.28	0.81 3.56	0.68 2.93	0.57 2.39	0.47 1.94	0.39 1.56	0.31 1.24	0.25 0.98	0.21 0.77	0.16 0.60
110	2.71 12.9	2.39 11.4	2.10 9.94	1.83 8.61	1.59 7.41	1.37 6.32	1.17 5.35	1.00 4.50	0.85 3.75	0.71 3.10	0.59 2.54	0.49 2.06	0.41 1.66	0.33 1.33	0.27 1.06
112	3.50 16.8	3.12 15.0	2.77 13.3	2.45 11.8	2.15 10.3	1.88 8.94	1.63 7.71	1.41 6.59	1.21 5.60	1.03 4.71	0.88 3.94	0.74 3.26	0.62 2.68	0.52 2.19	0.43 1.77
114	4.40 21.1	3.97 19.1	3.56 17.3	3.18 15.5	2.83 13.7	2.50 12.1	2.20 10.6	1.93 9.27	1.68 8.01	1.45 6.87	1.25 5.85	1.07 4.94	0.91 4.14	0.77 3.44	0.65 2.84
116	5.41 25.8	4.92 23.7	4.46 21.6	4.03 19.6	3.62 17.7	3.24 15.9	2.89 14.2	2.56 12.5	2.26 11.0	1.98 9.61	1.73 8.32	1.50 7.15	1.29 6.10	1.11 5.16	0.94 4.34
118	6.52 30.6	5.99 28.5	5.48 26.3	4.99 24.2	4.53 22.1	4.10 20.1	3.69 18.2	3.30 16.3	2.95 14.6	2.62 12.9	2.31 11.4	2.03 9.94	1.77 8.63	1.54 7.43	1.33 6.36
120	7.73 35.6	7.15 33.4	6.59 31.2	6.06 29.0	5.55 26.9	5.06 24.7	4.60 22.7	4.16 20.6	3.75 18.7	3.36 16.8	3.00 15.0	2.67 13.3	2.36 11.7	2.08 10.3	1.82 8.94
122	9.02 40.6	8.40 38.4	7.80 36.2	7.22 34.0	6.66 31.8	6.13 29.6	5.62 27.4	5.13 25.3	4.66 23.2	4.23 21.1	3.81 19.1	3.42 17.2	3.06 15.4	2.73 13.7	2.41 12.1
124	10.4 45.5	9.74 43.4	9.10 41.3	8.47 39.1	7.87 36.9	7.29 34.7	6.73 32.5	6.20 30.2	5.68 28.0	5.19 25.8	4.73 23.7	4.29 21.6	3.87 19.6	3.48 17.7	3.12 15.9
126	11.8 50.2	11.1 48.2	10.5 46.2	9.81 44.1	9.17 42.0	8.55 39.8	7.94 37.6	7.36 35.3	6.80 33.1	6.27 30.8	5.75 28.6	5.26 26.4	4.79 24.2	4.35 22.1	3.94 20.1
128	13.3 54.7	12.6 52.9	11.9 51.0	11.2 49.0	10.5 46.9	9.88 44.8	9.24 42.7	8.62 40.4	8.01 38.2	7.43 35.9	6.87 33.7	6.33 31.4	5.82 29.2	5.33 26.9	4.86 24.8
130	14.9 59.0	14.1 57.3	13.4 55.5	12.7 53.7	12.0 51.8	11.3 49.7	10.6 47.7	9.95 45.5	9.31 43.3	8.69 41.1	8.08 38.9	7.50 36.6	6.94 34.3	6.40 32.0	5.89 29.7
A	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135

N

A em Erl	N 136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
82															
84															
86															
88															
90															
92															
94															
96															
98															
100	0.01 0.03	0.01 0.02	0.01 0.01												
102	0.02 0.06	0.02 0.04	0.01 0.03	0.01 0.02	0.01 0.02										
104	0.04 0.12	0.03 0.09	0.02 0.07	0.02 0.05	0.01 0.04	0.01 0.03	0.01 0.02	0.01 0.01							
106	0.07 0.25	0.06 0.19	0.04 0.14	0.03 0.10	0.03 0.08	0.02 0.06	0.01 0.04	0.01 0.03	0.01 0.02	0.01 0.01					
108	0.13 0.46	0.10 0.36	0.08 0.27	0.06 0.21	0.05 0.15	0.04 0.12	0.03 0.09	0.02 0.06	0.02 0.05	0.01 0.03	0.01 0.02	0.01 0.02			
110	0.22 0.83	0.17 0.65	0.14 0.51	0.11 0.39	0.09 0.30	0.07 0.23	0.05 0.17	0.04 0.13	0.03 0.10	0.02 0.07	0.02 0.05	0.01 0.04	0.01 0.03	0.01 0.02	0.01 0.01
112	0.35 1.42	0.29 1.13	0.23 0.90	0.19 0.70	0.15 0.55	0.12 0.42	0.09 0.33	0.07 0.25	0.06 0.19	0.04 0.14	0.03 0.11	0.03 0.08	0.02 0.06	0.01 0.04	0.01 0.03
114	0.54 2.32	0.45 1.88	0.37 1.52	0.30 1.21	0.24 0.96	0.20 0.76	0.16 0.59	0.13 0.46	0.10 0.36	0.08 0.27	0.06 0.21	0.05 0.16	0.04 0.12	0.03 0.09	0.02 0.06
116	0.80 3.62	0.67 2.99	0.56 2.45	0.47 2.00	0.39 1.62	0.32 1.30	0.26 1.03	0.21 0.82	0.17 0.64	0.13 0.50	0.11 0.39	0.08 0.30	0.07 0.23	0.05 0.17	0.04 0.13
118	1.14 5.39	0.98 4.54	0.83 3.80	0.70 3.15	0.59 2.59	0.49 2.12	0.41 1.72	0.33 1.38	0.27 1.11	0.22 0.88	0.18 0.69	0.14 0.54	0.11 0.42	0.09 0.32	0.07 0.25
120	1.58 7.72	1.37 6.62	1.18 5.63	1.01 4.75	0.86 3.98	0.73 3.31	0.61 2.74	0.51 2.24	0.42 1.82	0.35 1.47	0.29 1.18	0.23 0.94	0.19 0.74	0.15 0.58	0.12 0.45
122	2.13 10.6	1.87 9.26	1.63 8.01	1.41 6.88	1.22 5.87	1.05 4.97	0.89 4.17	0.76 3.48	0.64 2.88	0.53 2.37	0.44 1.93	0.37 1.57	0.30 1.26	0.25 1.01	0.20 0.80
124	2.78 14.1	2.47 12.5	2.18 11.0	1.91 9.58	1.67 8.31	1.45 7.15	1.26 6.11	1.08 5.18	0.92 4.37	0.78 3.65	0.66 3.03	0.56 2.50	0.46 2.04	0.39 1.66	0.32 1.34
126	3.54 18.1	3.18 16.3	2.84 14.5	2.52 12.9	2.23 11.3	1.96 9.91	1.71 8.60	1.49 7.42	1.29 6.36	1.11 5.41	0.95 4.56	0.81 3.83	0.69 3.19	0.58 2.63	0.48 2.16
128	4.42 22.6	4.00 20.6	3.60 18.6	3.23 16.7	2.89 14.9	2.57 13.2	2.28 11.7	2.01 10.2	1.76 8.91	1.53 7.70	1.33 6.61	1.15 5.63	0.99 4.77	0.84 4.01	0.71 3.34
130	5.39 27.5	4.92 25.3	4.48 23.1	4.06 21.1	3.66 19.1	3.29 17.1	2.94 15.3	2.62 13.6	2.33 12.0	2.05 10.6	1.80 9.21	1.57 7.98	1.37 6.86	1.18 5.86	1.02 4.97
A	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150

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A em Erl	N 151	152	153	154	155	156	157	158	159	160	161	162	163	164	165
82															
84															
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96															
98															
100															
102															
104															
106															
108															
110															
112	**0.01** 0.02	**0.01** 0.02													
114	**0.02** 0.05	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02											
116	**0.03** 0.10	**0.02** 0.07	**0.02** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.02								
118	**0.06** 0.19	**0.04** 0.14	**0.03** 0.11	**0.03** 0.08	**0.02** 0.06	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.02						
120	**0.10** 0.35	**0.08** 0.27	**0.06** 0.21	**0.05** 0.16	**0.04** 0.12	**0.03** 0.09	**0.02** 0.07	**0.02** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.01			
122	**0.16** 0.63	**0.13** 0.49	**0.10** 0.38	**0.08** 0.30	**0.06** 0.23	**0.05** 0.17	**0.04** 0.13	**0.03** 0.10	**0.02** 0.07	**0.02** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.02	
124	**0.26** 1.07	**0.21** 0.85	**0.17** 0.68	**0.14** 0.53	**0.11** 0.41	**0.09** 0.32	**0.07** 0.25	**0.05** 0.19	**0.04** 0.14	**0.03** 0.11	**0.03** 0.08	**0.02** 0.06	**0.01** 0.05	**0.01** 0.03	**0.01** 0.02
126	**0.40** 1.76	**0.33** 1.42	**0.27** 1.14	**0.22** 0.91	**0.18** 0.72	**0.15** 0.57	**0.12** 0.45	**0.09** 0.35	**0.07** 0.27	**0.06** 0.21	**0.05** 0.16	**0.04** 0.12	**0.03** 0.09	**0.02** 0.07	**0.02** 0.05
128	**0.60** 2.77	**0.50** 2.28	**0.42** 1.86	**0.35** 1.51	**0.29** 1.22	**0.24** 0.98	**0.19** 0.78	**0.16** 0.61	**0.12** 0.48	**0.10** 0.38	**0.08** 0.29	**0.06** 0.22	**0.05** 0.17	**0.04** 0.13	**0.03** 0.10
130	**0.87** 4.19	**0.74** 3.50	**0.63** 2.91	**0.53** 2.40	**0.44** 1.97	**0.37** 1.60	**0.30** 1.29	**0.25** 1.04	**0.20** 0.83	**0.16** 0.66	**0.13** 0.52	**0.11** 0.41	**0.08** 0.32	**0.07** 0.24	**0.05** 0.19
A	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165

N

A em Erl	N 166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
82															
84															
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112															
114															
116															
118															
120															
122															
124	**0.01** 0.02														
126	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.01											
128	**0.02** 0.07	**0.02** 0.06	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.02									
130	**0.04** 0.14	**0.03** 0.11	**0.02** 0.08	**0.02** 0.06	**0.01** 0.05	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02							
A	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180

N

R em Erl
D

A em Erl	N 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
135	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.
	0.97	1.94	2.91	3.88	4.85	5.81	6.78	7.75	8.71	9.67	10.6	11.6	12.6	13.5	14.5
140	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.
	0.97	1.94	2.91	3.88	4.85	5.82	6.79	7.76	8.72	9.69	10.7	11.6	12.6	13.5	14.5
145	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.
	0.97	1.95	2.92	3.89	4.86	5.83	6.80	7.76	8.73	9.70	10.7	11.6	12.6	13.6	14.5
150	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.
	0.97	1.95	2.92	3.89	4.86	5.83	6.80	7.77	8.74	9.71	10.7	11.6	12.6	13.6	14.5
155	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.
	0.97	1.95	2.92	3.90	4.87	5.84	6.81	7.78	8.75	9.72	10.7	11.7	12.6	13.6	14.6
160	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.
	0.98	1.95	2.92	3.90	4.87	5.84	6.82	7.79	8.76	9.73	10.7	11.7	12.6	13.6	14.6
165	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.
	0.98	1.95	2.93	3.90	4.88	5.85	6.82	7.79	8.77	9.74	10.7	11.7	12.6	13.6	14.6
170	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.
	0.98	1.95	2.93	3.90	4.88	5.85	6.83	7.80	8.77	9.75	10.7	11.7	12.7	13.6	14.6
175	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.
	0.98	1.95	2.93	3.91	4.88	5.86	6.83	7.81	8.78	9.75	10.7	11.7	12.7	13.6	14.6
180	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.
	0.98	1.96	2.93	3.91	4.89	5.86	6.84	7.81	8.79	9.76	10.7	11.7	12.7	13.7	14.6
185	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.
	0.98	1.96	2.93	3.91	4.89	5.87	6.84	7.82	8.79	9.77	10.7	11.7	12.7	13.7	14.6
190	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.
	0.98	1.96	2.94	3.91	4.89	5.87	6.85	7.82	8.80	9.77	10.7	11.7	12.7	13.7	14.6
195	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.
	0.98	1.96	2.94	3.92	4.90	5.87	6.85	7.83	8.80	9.78	10.8	11.7	12.7	13.7	14.7
200	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.
	0.98	1.96	2.94	3.92	4.90	5.88	6.85	7.83	8.81	9.79	10.8	11.7	12.7	13.7	14.7
205	204.	203.	202.	201.	200.	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.
	0.98	1.96	2.94	3.92	4.90	5.88	6.86	7.84	8.81	9.79	10.8	11.7	12.7	13.7	14.7
210	209.	208.	207.	206.	205.	204.	203.	202.	201.	200.	199.	198.	197.	196.	195.
	0.98	1.96	2.94	3.92	4.90	5.88	6.86	7.84	8.82	9.80	10.8	11.8	12.7	13.7	14.7
215	214.	213.	212.	211.	210.	209.	208.	207.	206.	205.	204.	203.	202.	201.	200.
	0.98	1.96	2.94	3.92	4.91	5.89	6.87	7.84	8.82	9.80	10.8	11.8	12.7	13.7	14.7
220	219.	218.	217.	216.	215.	214.	213.	212.	211.	210.	209.	208.	207.	206.	205.
	0.98	1.96	2.95	3.93	4.91	5.89	6.87	7.85	8.83	9.81	10.8	11.8	12.7	13.7	14.7
225	224.	223.	222.	221.	220.	219.	218.	217.	216.	215.	214.	213.	212.	211.	210.
	0.98	1.96	2.95	3.93	4.91	5.89	6.87	7.85	8.83	9.81	10.8	11.8	12.7	13.7	14.7
230	229.	228.	227.	226.	225.	224.	223.	222.	221.	220.	219.	218.	217.	216.	215.
	0.98	1.97	2.95	3.93	4.91	5.89	6.87	7.86	8.84	9.82	10.8	11.8	12.8	13.7	14.7
235	234.	233.	232.	231.	230.	229.	228.	227.	226.	225.	224.	223.	222.	221.	220.
	0.98	1.97	2.95	3.93	4.91	5.90	6.88	7.86	8.84	9.82	10.8	11.8	12.8	13.7	14.7
240	239.	238.	237.	236.	235.	234.	233.	232.	231.	230.	229.	228.	227.	226.	225.
	0.98	1.97	2.95	3.93	4.92	5.90	6.88	7.86	8.84	9.82	10.8	11.8	12.8	13.7	14.7
245	244.	243.	242.	241.	240.	239.	238.	237.	236.	235.	234.	233.	232.	231.	230.
	0.98	1.97	2.95	3.93	4.92	5.90	6.88	7.86	8.85	9.83	10.8	11.8	12.8	13.8	14.7
250	249.	248.	247.	246.	245.	244.	243.	242.	241.	240.	239.	238.	237.	236.	235.
	0.98	1.97	2.95	3.94	4.92	5.90	6.88	7.87	8.85	9.83	10.8	11.8	12.8	13.8	14.7
A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	N														

R em Erl
D

A em Erl	N 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
135	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.
	15.4	16.4	17.3	18.3	19.3	20.2	21.2	22.1	23.0	24.0	24.9	25.9	26.8	27.8	28.7
140	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.
	15.5	16.4	17.4	18.3	19.3	20.2	21.2	22.1	23.1	24.0	25.0	25.9	26.9	27.8	28.8
145	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.
	15.5	16.4	17.4	18.4	19.3	20.3	21.2	22.2	23.1	24.1	25.0	26.0	26.9	27.9	28.8
150	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.
	15.5	16.5	17.4	18.4	19.3	20.3	21.3	22.2	23.2	24.1	25.1	26.0	27.0	27.9	28.9
155	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.
	15.5	16.5	17.4	18.4	19.4	20.3	21.3	22.2	23.2	24.2	25.1	26.1	27.0	28.0	28.9
160	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.
	15.5	16.5	17.5	18.4	19.4	20.4	21.3	22.3	23.2	24.2	25.1	26.1	27.1	28.0	29.0
165	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.
	15.6	16.5	17.5	18.4	19.4	20.4	21.3	22.3	23.3	24.2	25.2	26.1	27.1	28.1	29.0
170	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.
	15.6	16.5	17.5	18.5	19.4	20.4	21.4	22.3	23.3	24.3	25.2	26.2	27.1	28.1	29.0
175	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.
	15.6	16.5	17.5	18.5	19.5	20.4	21.4	22.4	23.3	24.3	25.2	26.2	27.2	28.1	29.1
180	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.
	15.6	16.6	17.5	18.5	19.5	20.4	21.4	22.4	23.3	24.3	25.3	26.2	27.2	28.2	29.1
185	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.
	15.6	16.6	17.5	18.5	19.5	20.5	21.4	22.4	23.4	24.3	25.3	26.3	27.2	28.2	29.1
190	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.
	15.6	16.6	17.6	18.5	19.5	20.5	21.4	22.4	23.4	24.3	25.3	26.3	27.2	28.2	29.2
195	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.
	15.6	16.6	17.6	18.5	19.5	20.5	21.5	22.4	23.4	24.4	25.3	26.3	27.3	28.2	29.2
200	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.
	15.6	16.6	17.6	18.6	19.5	20.5	21.5	22.4	23.4	24.4	25.4	26.3	27.3	28.3	29.2
205	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.
	15.6	16.6	17.6	18.6	19.5	20.5	21.5	22.5	23.4	24.4	25.4	26.3	27.3	28.3	29.3
210	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.
	15.7	16.6	17.6	18.6	19.6	20.5	21.5	22.5	23.5	24.4	25.4	26.4	27.3	28.3	29.3
215	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.
	15.7	16.6	17.6	18.6	19.6	20.5	21.5	22.5	23.5	24.4	25.4	26.4	27.4	28.3	29.3
220	204.	203.	202.	201.	200.	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.
	15.7	16.7	17.6	18.6	19.6	20.6	21.5	22.5	23.5	24.5	25.4	26.4	27.4	28.3	29.3
225	209.	208.	207.	206.	205.	204.	203.	202.	201.	200.	199.	198.	197.	196.	195.
	15.7	16.7	17.6	18.6	19.6	20.6	21.5	22.5	23.5	24.5	25.4	26.4	27.4	28.4	29.3
230	214.	213.	212.	211.	210.	209.	208.	207.	206.	205.	204.	203.	202.	201.	200.
	15.7	16.7	17.6	18.6	19.6	20.6	21.6	22.5	23.5	24.5	25.5	26.4	27.4	28.4	29.4
235	219.	218.	217.	216.	215.	214.	213.	212.	211.	210.	209.	208.	207.	206.	205.
	15.7	16.7	17.7	18.6	19.6	20.6	21.6	22.5	23.5	24.5	25.5	26.4	27.4	28.4	29.4
240	224.	223.	222.	221.	220.	219.	218.	217.	216.	215.	214.	213.	212.	211.	210.
	15.7	16.7	17.7	18.6	19.6	20.6	21.6	22.6	23.5	24.5	25.5	26.5	27.4	28.4	29.4
245	229.	228.	227.	226.	225.	224.	223.	222.	221.	220.	219.	218.	217.	216.	215.
	15.7	16.7	17.7	18.7	19.6	20.6	21.6	22.6	23.5	24.5	25.5	26.5	27.4	28.4	29.4
250	234.	233.	232.	231.	230.	229.	228.	227.	226.	225.	224.	223.	222.	221.	220.
	15.7	16.7	17.7	18.7	19.6	20.6	21.6	22.6	23.6	24.5	25.5	26.5	27.5	28.4	29.4
A	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	N														

A em Erl	N 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
135	104.	103.	102.	101.	100.	99.4	98.4	97.4	96.4	95.4	94.4	93.4	92.5	91.5	90.5
	29.6	30.6	31.5	32.4	33.3	34.3	35.2	36.1	37.0	37.9	38.9	39.8	40.7	41.6	42.5
140	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.4	98.4	97.4	96.4	95.5
	29.7	30.6	31.6	32.5	33.4	34.4	35.3	36.2	37.1	38.1	39.0	39.9	40.8	41.7	42.6
145	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.
	29.8	30.7	31.6	32.6	33.5	34.5	35.4	36.3	37.2	38.2	39.1	40.0	40.9	41.9	42.8
150	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.
	29.8	30.8	31.7	32.6	33.6	34.5	35.5	36.4	37.3	38.3	39.2	40.1	41.0	42.0	42.9
155	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.
	29.9	30.8	31.8	32.7	33.7	34.6	35.5	36.5	37.4	38.3	39.3	40.2	41.1	42.1	43.0
160	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.
	29.9	30.9	31.8	32.8	33.7	34.7	35.6	36.5	37.5	38.4	39.4	40.3	41.2	42.2	43.1
165	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.
	30.0	30.9	31.9	32.8	33.8	34.7	35.7	36.6	37.6	38.5	39.4	40.4	41.3	42.3	43.2
170	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.
	30.0	31.0	31.9	32.9	33.8	34.8	35.7	36.7	37.6	38.6	39.5	40.4	41.4	42.3	43.3
175	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.
	30.0	31.0	32.0	32.9	33.9	34.8	35.8	36.7	37.7	38.6	39.6	40.5	41.5	42.4	43.3
180	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.
	30.1	31.0	32.0	33.0	33.9	34.9	35.8	36.8	37.7	38.7	39.6	40.6	41.5	42.5	43.4
185	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.
	30.1	31.1	32.0	33.0	33.9	34.9	35.9	36.8	37.8	38.7	39.7	40.6	41.6	42.5	43.5
190	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.
	30.1	31.1	32.1	33.0	34.0	34.9	35.9	36.9	37.8	38.8	39.7	40.7	41.6	42.6	43.5
195	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.
	30.2	31.1	32.1	33.1	34.0	35.0	35.9	36.9	37.9	38.8	39.8	40.7	41.7	42.6	43.6
200	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.
	30.2	31.2	32.1	33.1	34.1	35.0	36.0	36.9	37.9	38.9	39.8	40.8	41.7	42.7	43.6
205	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.
	30.2	31.2	32.2	33.1	34.1	35.0	36.0	37.0	37.9	38.9	39.9	40.8	41.8	42.7	43.7
210	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.
	30.2	31.2	32.2	33.1	34.1	35.1	36.0	37.0	38.0	38.9	39.9	40.9	41.8	42.8	43.7
215	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.
	30.3	31.2	32.2	33.2	34.1	35.1	36.1	37.0	38.0	39.0	39.9	40.9	41.9	42.8	43.8
220	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.
	30.3	31.3	32.2	33.2	34.2	35.1	36.1	37.1	38.0	39.0	40.0	40.9	41.9	42.9	43.8
225	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.
	30.3	31.3	32.2	33.2	34.2	35.2	36.1	37.1	38.1	39.0	40.0	41.0	41.9	42.9	43.9
230	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.
	30.3	31.3	32.3	33.2	34.2	35.2	36.1	37.1	38.1	39.1	40.0	41.0	42.0	42.9	43.9
235	204.	203.	202.	201.	200.	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.
	30.3	31.3	32.3	33.3	34.2	35.2	36.2	37.1	38.1	39.1	40.1	41.0	42.0	43.0	43.9
240	209.	208.	207.	206.	205.	204.	203.	202.	201.	200.	199.	198.	197.	196.	195.
	30.4	31.3	32.3	33.3	34.3	35.2	36.2	37.2	38.1	39.1	40.1	41.0	42.0	43.0	44.0
245	214.	213.	212.	211.	210.	209.	208.	207.	206.	205.	204.	203.	202.	201.	200.
	30.4	31.3	32.3	33.3	34.3	35.2	36.2	37.2	38.2	39.1	40.1	41.1	42.0	43.0	44.0
250	219.	218.	217.	216.	215.	214.	213.	212.	211.	210.	209.	208.	207.	206.	205.
	30.4	31.4	32.3	33.3	34.3	35.3	36.2	37.2	38.2	39.2	40.1	41.1	42.1	43.0	44.0
A	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
	N														

A em Erl	N 46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
135	89.5	88.5	87.5	86.6	85.6	84.6	83.6	82.6	81.6	80.7	79.7	78.7	77.7	76.7	75.8
	43.4	44.3	45.2	46.0	46.9	47.8	48.7	49.6	50.4	51.3	52.1	53.0	53.8	54.7	55.5
140	94.5	93.5	92.5	91.5	90.5	89.6	88.6	87.6	86.6	85.6	84.6	83.7	82.7	81.7	80.7
	43.5	44.4	45.3	46.2	47.1	48.0	48.9	49.8	50.7	51.5	52.4	53.3	54.1	55.0	55.8
145	99.5	98.5	97.5	96.5	95.5	94.5	93.5	92.6	91.6	90.6	89.6	88.6	87.6	86.7	85.7
	43.7	44.6	45.5	46.4	47.3	48.2	49.1	50.0	50.9	51.8	52.6	53.5	54.4	55.3	56.1
150	104.	103.	102.	101.	100.	99.5	98.5	97.5	96.5	95.6	94.6	93.6	92.6	91.6	90.6
	43.8	44.7	45.6	46.6	47.5	48.4	49.3	50.2	51.1	52.0	52.9	53.7	54.6	55.5	56.4
155	109.	108.	107.	106.	105.	104.	103.	103.	102.	101.	99.5	98.6	97.6	96.6	95.6
	43.9	44.8	45.8	46.7	47.6	48.5	49.4	50.3	51.2	52.1	53.0	53.9	54.8	55.7	56.6
160	114.	113.	112.	111.	110.	109.	108.	107.	106.	106.	105.	104.	103.	102.	101.
	44.0	45.0	45.9	46.8	47.7	48.6	49.6	50.5	51.4	52.3	53.2	54.1	55.0	55.9	56.8
165	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	110.	109.	108.	107.	106.
	44.1	45.1	46.0	46.9	47.8	48.8	49.7	50.6	51.5	52.4	53.4	54.3	55.2	56.1	57.0
170	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	113.	112.	111.
	44.2	45.1	46.1	47.0	47.9	48.9	49.8	50.7	51.6	52.6	53.5	54.4	55.3	56.2	57.1
175	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	116.
	44.3	45.2	46.2	47.1	48.0	49.0	49.9	50.8	51.8	52.7	53.6	54.5	55.5	56.4	57.3
180	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.
	44.4	45.3	46.2	47.2	48.1	49.1	50.0	50.9	51.9	52.8	53.7	54.7	55.6	56.5	57.4
185	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.
	44.4	45.4	46.3	47.3	48.2	49.1	50.1	51.0	52.0	52.9	53.8	54.8	55.7	56.6	57.5
190	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.
	44.5	45.4	46.4	47.3	48.3	49.2	50.2	51.1	52.0	53.0	53.9	54.9	55.8	56.7	57.7
195	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.
	44.5	45.5	46.4	47.4	48.3	49.3	50.2	51.2	52.1	53.1	54.0	54.9	55.9	56.8	57.8
200	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.
	44.6	45.6	46.5	47.5	48.4	49.4	50.3	51.3	52.2	53.1	54.1	55.0	56.0	56.9	57.9
205	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.
	44.6	45.6	46.6	47.5	48.5	49.4	50.4	51.3	52.3	53.2	54.2	55.1	56.1	57.0	57.9
210	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.
	44.7	45.7	46.6	47.6	48.5	49.5	50.4	51.4	52.3	53.3	54.2	55.2	56.1	57.1	58.0
215	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.	159.	158.	157.	156.	155.
	44.7	45.7	46.7	47.6	48.6	49.5	50.5	51.4	52.4	53.3	54.3	55.2	56.2	57.1	58.1
220	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.	164.	163.	162.	161.	160.
	44.8	45.7	46.7	47.7	48.6	49.6	50.5	51.5	52.4	53.4	54.4	55.3	56.3	57.2	58.2
225	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.	169.	168.	167.	166.	165.
	44.8	45.8	46.7	47.7	48.7	49.6	50.6	51.5	52.5	53.5	54.4	55.4	56.3	57.3	58.2
230	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.	174.	173.	172.	171.	170.
	44.9	45.8	46.8	47.7	48.7	49.7	50.6	51.6	52.5	53.5	54.5	55.4	56.4	57.3	58.3
235	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.	179.	178.	177.	176.	175.
	44.9	45.9	46.8	47.8	48.7	49.7	50.7	51.6	52.6	53.6	54.5	55.5	56.4	57.4	58.3
240	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.	184.	183.	182.	181.	180.
	44.9	45.9	46.9	47.8	48.8	49.7	50.7	51.7	52.6	53.6	54.6	55.5	56.5	57.4	58.4
245	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.	189.	188.	187.	186.	185.
	44.9	45.9	46.9	47.8	48.8	49.8	50.7	51.7	52.7	53.6	54.6	55.6	56.5	57.5	58.4
250	204.	203.	202.	201.	200.	199.	198.	197.	196.	195.	194.	193.	192.	191.	190.
	45.0	45.9	46.9	47.9	48.8	49.8	50.8	51.7	52.7	53.7	54.6	55.6	56.6	57.5	58.5
A	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	N														

R em Erl
D

A em Erl	N 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
135	**74.8** 56.3	**73.8** 57.2	**72.8** 58.0	**71.9** 58.8	**70.9** 59.6	**69.9** 60.4	**68.9** 61.2	**68.0** 61.9	**67.0** 62.7	**66.0** 63.5	**65.0** 64.2	**64.1** 65.0	**63.1** 65.7	**62.1** 66.4	**61.2** 67.1
140	**79.7** 56.7	**78.8** 57.5	**77.8** 58.4	**76.8** 59.2	**75.8** 60.0	**74.9** 60.8	**73.9** 61.6	**72.9** 62.4	**71.9** 63.2	**70.9** 64.0	**70.0** 64.8	**69.0** 65.6	**68.0** 66.3	**67.1** 67.1	**66.1** 67.8
145	**84.7** 57.0	**83.7** 57.8	**82.7** 58.7	**81.8** 59.5	**80.8** 60.4	**79.8** 61.2	**78.8** 62.0	**77.8** 62.9	**76.9** 63.7	**75.9** 64.5	**74.9** 65.3	**73.9** 66.1	**73.0** 66.9	**72.0** 67.7	**71.0** 68.4
150	**89.7** 57.3	**88.7** 58.1	**87.7** 59.0	**86.7** 59.8	**85.7** 60.7	**84.8** 61.6	**83.8** 62.4	**82.8** 63.2	**81.8** 64.1	**80.8** 64.9	**79.9** 65.7	**78.9** 66.5	**77.9** 67.4	**76.9** 68.2	**76.0** 69.0
155	**94.6** 57.5	**93.6** 58.4	**92.7** 59.2	**91.7** 60.1	**90.7** 61.0	**89.7** 61.9	**88.7** 62.7	**87.8** 63.6	**86.8** 64.4	**85.8** 65.3	**84.8** 66.1	**83.8** 66.9	**82.9** 67.8	**81.9** 68.6	**80.9** 69.4
160	**99.6** 57.7	**98.6** 58.6	**97.6** 59.5	**96.6** 60.4	**95.7** 61.2	**94.7** 62.1	**93.7** 63.0	**92.7** 63.9	**91.7** 64.7	**90.7** 65.6	**89.8** 66.4	**88.8** 67.3	**87.8** 68.1	**86.8** 69.0	**85.8** 69.8
165	**105.** 57.9	**104.** 58.8	**103.** 59.7	**102.** 60.6	**101.** 61.5	**99.6** 62.4	**98.7** 63.2	**97.7** 64.1	**96.7** 65.0	**95.7** 65.9	**94.7** 66.7	**93.7** 67.6	**92.8** 68.5	**91.8** 69.3	**90.8** 70.2
170	**110.** 58.1	**109.** 59.0	**108.** 59.9	**107.** 60.8	**106.** 61.7	**105.** 62.6	**104.** 63.5	**103.** 64.3	**102.** 65.2	**101.** 66.1	**99.7** 67.0	**98.7** 67.9	**97.7** 68.7	**96.7** 69.6	**95.8** 70.5
175	**115.** 58.2	**114.** 59.1	**113.** 60.0	**112.** 60.9	**111.** 61.8	**110.** 62.7	**109.** 63.6	**108.** 64.5	**107.** 65.4	**106.** 66.3	**105.** 67.2	**104.** 68.1	**103.** 69.0	**102.** 69.9	**101.** 70.7
180	**120.** 58.3	**119.** 59.3	**118.** 60.2	**117.** 61.1	**116.** 62.0	**115.** 62.9	**114.** 63.8	**113.** 64.7	**112.** 65.6	**111.** 66.5	**110.** 67.4	**109.** 68.3	**108.** 69.2	**107.** 70.1	**106.** 71.0
185	**124.** 58.5	**123.** 59.4	**123.** 60.3	**122.** 61.2	**121.** 62.2	**120.** 63.1	**119.** 64.0	**118.** 64.9	**117.** 65.8	**116.** 66.7	**115.** 67.6	**114.** 68.5	**113.** 69.4	**112.** 70.3	**111.** 71.2
190	**129.** 58.6	**128.** 59.5	**127.** 60.4	**126.** 61.4	**126.** 62.3	**125.** 63.2	**124.** 64.1	**123.** 65.0	**122.** 66.0	**121.** 66.9	**120.** 67.8	**119.** 68.7	**118.** 69.6	**117.** 70.5	**116.** 71.4
195	**134.** 58.7	**133.** 59.6	**132.** 60.6	**131.** 61.5	**130.** 62.4	**130.** 63.3	**129.** 64.3	**128.** 65.2	**127.** 66.1	**126.** 67.0	**125.** 67.9	**124.** 68.9	**123.** 69.8	**122.** 70.7	**121.** 71.6
200	**139.** 58.8	**138.** 59.7	**137.** 60.7	**136.** 61.6	**135.** 62.5	**134.** 63.5	**133.** 64.4	**133.** 65.3	**132.** 66.2	**131.** 67.2	**130.** 68.1	**129.** 69.0	**128.** 69.9	**127.** 70.8	**126.** 71.8
205	**144.** 58.9	**143.** 59.8	**142.** 60.8	**141.** 61.7	**140.** 62.6	**139.** 63.6	**138.** 64.5	**137.** 65.4	**136.** 66.4	**136.** 67.3	**135.** 68.2	**134.** 69.1	**133.** 70.1	**132.** 71.0	**131.** 71.9
210	**149.** 59.0	**148.** 59.9	**147.** 60.8	**146.** 61.8	**145.** 62.7	**144.** 63.7	**143.** 64.6	**142.** 65.5	**141.** 66.5	**140.** 67.4	**140.** 68.3	**139.** 69.3	**138.** 70.2	**137.** 71.1	**136.** 72.0
215	**154.** 59.0	**153.** 60.0	**152.** 60.9	**151.** 61.9	**150.** 62.8	**149.** 63.8	**148.** 64.7	**147.** 65.6	**146.** 66.6	**145.** 67.5	**144.** 68.4	**143.** 69.4	**143.** 70.3	**142.** 71.2	**141.** 72.2
220	**159.** 59.1	**158.** 60.1	**157.** 61.0	**156.** 62.0	**155.** 62.9	**154.** 63.8	**153.** 64.8	**152.** 65.7	**151.** 66.7	**150.** 67.6	**149.** 68.5	**148.** 69.5	**147.** 70.4	**146.** 71.4	**146.** 72.3
225	**164.** 59.2	**163.** 60.1	**162.** 61.1	**161.** 62.0	**160.** 63.0	**159.** 63.9	**158.** 64.9	**157.** 65.8	**156.** 66.8	**155.** 67.7	**154.** 68.6	**153.** 69.6	**152.** 70.5	**151.** 71.5	**150.** 72.4
230	**169.** 59.2	**168.** 60.2	**167.** 61.1	**166.** 62.1	**165.** 63.0	**164.** 64.0	**163.** 64.9	**162.** 65.9	**161.** 66.8	**160.** 67.8	**159.** 68.7	**158.** 69.7	**157.** 70.6	**156.** 71.6	**155.** 72.5
235	**174.** 59.3	**173.** 60.3	**172.** 61.2	**171.** 62.2	**170.** 63.1	**169.** 64.1	**168.** 65.0	**167.** 66.0	**166.** 66.9	**165.** 67.9	**164.** 68.8	**163.** 69.8	**162.** 70.7	**161.** 71.6	**160.** 72.6
240	**179.** 59.4	**178.** 60.3	**177.** 61.3	**176.** 62.2	**175.** 63.2	**174.** 64.1	**173.** 65.1	**172.** 66.0	**171.** 67.0	**170.** 67.9	**169.** 68.9	**168.** 69.8	**167.** 70.8	**166.** 71.7	**165.** 72.7
245	**184.** 59.4	**183.** 60.4	**182.** 61.3	**181.** 62.3	**180.** 63.2	**179.** 64.2	**178.** 65.1	**177.** 66.1	**176.** 67.1	**175.** 68.0	**174.** 69.0	**173.** 69.9	**172.** 70.9	**171.** 71.8	**170.** 72.8
250	**189.** 59.5	**188.** 60.4	**187.** 61.4	**186.** 62.3	**185.** 63.3	**184.** 64.2	**183.** 65.2	**182.** 66.2	**181.** 67.1	**180.** 68.1	**179.** 69.0	**178.** 70.0	**177.** 70.9	**176.** 71.9	**175.** 72.8
A	61	62	63	64	65	66	67	68	N 69	70	71	72	73	74	75

R em Erl
D

A em Erl	N 76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
135	**60.2** 67.8	**59.2** 68.5	**58.3** 69.2	**57.3** 69.8	**56.3** 70.5	**55.4** 71.1	**54.4** 71.7	**53.5** 72.3	**52.5** 72.9	**51.5** 73.4	**50.6** 74.0	**49.6** 74.5	**48.7** 75.0	**47.7** 75.5	**46.8** 75.9
140	**65.1** 68.6	**64.1** 69.3	**63.2** 70.0	**62.2** 70.7	**61.2** 71.4	**60.3** 72.1	**59.3** 72.7	**58.3** 73.4	**57.4** 74.0	**56.4** 74.6	**55.5** 75.2	**54.5** 75.8	**53.5** 76.4	**52.6** 76.9	**51.6** 77.5
145	**70.0** 69.2	**69.1** 70.0	**68.1** 70.7	**67.1** 71.4	**66.2** 72.2	**65.2** 72.9	**64.2** 73.6	**63.3** 74.3	**62.3** 75.0	**61.3** 75.6	**60.4** 76.3	**59.4** 76.9	**58.4** 77.6	**57.5** 78.2	**56.5** 78.8
150	**75.0** 69.8	**74.0** 70.5	**73.0** 71.3	**72.1** 72.1	**71.1** 72.8	**70.1** 73.6	**69.1** 74.3	**68.2** 75.1	**67.2** 75.8	**66.2** 76.5	**65.3** 77.2	**64.3** 77.9	**63.3** 78.6	**62.4** 79.2	**61.4** 79.9
155	**79.9** 70.2	**78.9** 71.0	**78.0** 71.8	**77.0** 72.6	**76.0** 73.4	**75.0** 74.2	**74.1** 75.0	**73.1** 75.7	**72.1** 76.5	**71.1** 77.2	**70.2** 78.0	**69.2** 78.7	**68.2** 79.4	**67.3** 80.1	**66.3** 80.8
160	**84.9** 70.6	**83.9** 71.5	**82.9** 72.3	**81.9** 73.1	**81.0** 73.9	**80.0** 74.7	**79.0** 75.5	**78.0** 76.3	**77.0** 77.1	**76.1** 77.9	**75.1** 78.6	**74.1** 79.4	**73.2** 80.1	**72.2** 80.9	**71.2** 81.6
165	**89.8** 71.0	**88.8** 71.9	**87.9** 72.7	**86.9** 73.5	**85.9** 74.3	**84.9** 75.2	**83.9** 76.0	**83.0** 76.8	**82.0** 77.6	**81.0** 78.4	**80.0** 79.2	**79.1** 80.0	**78.1** 80.7	**77.1** 81.5	**76.1** 82.3
170	**94.8** 71.3	**93.8** 72.2	**92.8** 73.0	**91.8** 73.9	**90.9** 74.7	**89.9** 75.6	**88.9** 76.4	**87.9** 77.2	**86.9** 78.1	**86.0** 78.9	**85.0** 79.7	**84.0** 80.5	**83.0** 81.3	**82.0** 82.1	**81.1** 82.9
175	**99.7** 71.6	**98.8** 72.5	**97.8** 73.4	**96.8** 74.2	**95.8** 75.1	**94.8** 75.9	**93.8** 76.8	**92.9** 77.6	**91.9** 78.5	**90.9** 79.3	**89.9** 80.1	**88.9** 80.9	**88.0** 81.8	**87.0** 82.6	**86.0** 83.4
180	**105.** 71.9	**104.** 72.8	**103.** 73.6	**102.** 74.5	**101.** 75.4	**99.8** 76.2	**98.8** 77.1	**97.8** 78.0	**96.8** 78.8	**95.9** 79.7	**94.9** 80.5	**93.9** 81.3	**92.9** 82.2	**91.9** 83.0	**91.0** 83.8
185	**110.** 72.1	**109.** 73.0	**108.** 73.9	**107.** 74.8	**106.** 75.6	**105.** 76.5	**104.** 77.4	**103.** 78.3	**102.** 79.1	**101.** 80.0	**99.8** 80.8	**98.9** 81.7	**97.9** 82.5	**96.9** 83.4	**95.9** 84.2
190	**115.** 72.3	**114.** 73.2	**113.** 74.1	**112.** 75.0	**111.** 75.9	**110.** 76.8	**109.** 77.6	**108.** 78.5	**107.** 79.4	**106.** 80.3	**105.** 81.1	**104.** 82.0	**103.** 82.9	**102.** 83.7	**101.** 84.6
195	**120.** 72.5	**119.** 73.4	**118.** 74.3	**117.** 75.2	**116.** 76.1	**115.** 77.0	**114.** 77.9	**113.** 78.8	**112.** 79.7	**111.** 80.5	**110.** 81.4	**109.** 82.3	**108.** 83.2	**107.** 84.0	**106.** 84.9
200	**125.** 72.7	**124.** 73.6	**123.** 74.5	**122.** 75.4	**121.** 76.3	**120.** 77.2	**119.** 78.1	**118.** 79.0	**117.** 79.9	**116.** 80.8	**115.** 81.7	**114.** 82.6	**113.** 83.4	**112.** 84.3	**111.** 85.2
205	**130.** 72.8	**129.** 73.7	**128.** 74.7	**127.** 75.6	**126.** 76.5	**125.** 77.4	**124.** 78.3	**123.** 79.2	**122.** 80.1	**121.** 81.0	**120.** 81.9	**119.** 82.8	**118.** 83.7	**117.** 84.6	**116.** 85.4
210	**135.** 73.0	**134.** 73.9	**133.** 74.8	**132.** 75.7	**131.** 76.6	**130.** 77.6	**129.** 78.5	**128.** 79.4	**127.** 80.3	**126.** 81.2	**125.** 82.1	**124.** 83.0	**123.** 83.9	**122.** 84.8	**121.** 85.7
215	**140.** 73.1	**139.** 74.0	**138.** 74.9	**137.** 75.9	**136.** 76.8	**135.** 77.7	**134.** 78.6	**133.** 79.5	**132.** 80.5	**131.** 81.4	**130.** 82.3	**129.** 83.2	**128.** 84.1	**127.** 85.0	**126.** 85.9
220	**145.** 73.2	**144.** 74.1	**143.** 75.1	**142.** 76.0	**141.** 76.9	**140.** 77.9	**139.** 78.8	**138.** 79.7	**137.** 80.6	**136.** 81.5	**135.** 82.4	**134.** 83.4	**133.** 84.3	**132.** 85.2	**131.** 86.1
225	**150.** 73.3	**149.** 74.3	**148.** 75.2	**147.** 76.1	**146.** 77.1	**145.** 78.0	**144.** 78.9	**143.** 79.8	**142.** 80.8	**141.** 81.7	**140.** 82.6	**139.** 83.5	**138.** 84.4	**137.** 85.4	**136.** 86.3
230	**154.** 73.4	**153.** 74.4	**153.** 75.3	**152.** 76.2	**151.** 77.2	**150.** 78.1	**149.** 79.0	**148.** 80.0	**147.** 80.9	**146.** 81.8	**145.** 82.7	**144.** 83.7	**143.** 84.6	**142.** 85.5	**141.** 86.4
235	**159.** 73.5	**158.** 74.5	**157.** 75.4	**156.** 76.3	**156.** 77.3	**155.** 78.2	**154.** 79.2	**153.** 80.1	**152.** 81.0	**151.** 81.9	**150.** 82.9	**149.** 83.8	**148.** 84.7	**147.** 85.7	**146.** 86.6
240	**164.** 73.6	**163.** 74.6	**162.** 75.5	**161.** 76.4	**160.** 77.4	**160.** 78.3	**159.** 79.3	**158.** 80.2	**157.** 81.1	**156.** 82.1	**155.** 83.0	**154.** 83.9	**153.** 84.9	**152.** 85.8	**151.** 86.7
245	**169.** 73.7	**168.** 74.6	**167.** 75.6	**166.** 76.5	**165.** 77.5	**164.** 78.4	**163.** 79.4	**163.** 80.3	**162.** 81.2	**161.** 82.2	**160.** 83.1	**159.** 84.1	**158.** 85.0	**157.** 85.9	**156.** 86.8
250	**174.** 73.8	**173.** 74.7	**172.** 75.7	**171.** 76.6	**170.** 77.6	**169.** 78.5	**168.** 79.5	**167.** 80.4	**166.** 81.3	**166.** 82.3	**165.** 83.2	**164.** 84.2	**163.** 85.1	**162.** 86.0	**161.** 87.0
A	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

A em Erl	N 91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
135	45.8	44.9	44.0	43.0	42.1	41.1	40.2	39.3	38.3	37.4	36.5	35.6	34.7	33.7	32.8
	76.3	76.7	77.1	77.4	77.8	78.0	78.3	78.5	78.7	78.8	78.9	79.0	79.0	78.9	78.8
140	50.7	49.7	48.8	47.8	46.9	45.9	45.0	44.1	43.1	42.2	41.2	40.3	39.4	38.4	37.5
	78.0	78.5	79.0	79.4	79.8	80.2	80.6	80.9	81.2	81.5	81.7	82.0	82.1	82.3	82.4
145	55.5	54.6	53.6	52.7	51.7	50.8	49.8	48.9	47.9	47.0	46.0	45.1	44.1	43.2	42.3
	79.4	79.9	80.5	81.0	81.5	82.0	82.5	82.9	83.3	83.7	84.1	84.4	84.7	85.0	85.2
150	60.4	59.5	58.5	57.5	56.6	55.6	54.7	53.7	52.8	51.8	50.9	49.9	49.0	48.0	47.1
	80.5	81.1	81.7	82.3	82.9	83.5	84.0	84.5	85.0	85.5	86.0	86.4	86.8	87.2	87.6
155	65.3	64.4	63.4	62.4	61.5	60.5	59.5	58.6	57.6	56.7	55.7	54.8	53.8	52.8	51.9
	81.5	82.2	82.8	83.5	84.1	84.7	85.3	85.9	86.5	87.0	87.6	88.1	88.6	89.0	89.5
160	70.2	69.3	68.3	67.3	66.4	65.4	64.4	63.5	62.5	61.5	60.6	59.6	58.7	57.7	56.7
	82.3	83.0	83.7	84.4	85.1	85.8	86.4	87.0	87.7	88.3	88.9	89.5	90.0	90.6	91.1
165	75.2	74.2	73.2	72.2	71.3	70.3	69.3	68.4	67.4	66.4	65.5	64.5	63.5	62.6	61.6
	83.0	83.8	84.5	85.2	85.9	86.6	87.3	88.0	88.7	89.4	90.0	90.6	91.3	91.9	92.5
170	80.1	79.1	78.1	77.2	76.2	75.2	74.3	73.3	72.3	71.3	70.4	69.4	68.4	67.5	66.5
	83.6	84.4	85.2	85.9	86.7	87.4	88.1	88.9	89.6	90.3	91.0	91.6	92.3	93.0	93.6
175	85.0	84.1	83.1	82.1	81.1	80.2	79.2	78.2	77.2	76.3	75.3	74.3	73.3	72.4	71.4
	84.2	85.0	85.8	86.5	87.3	88.1	88.8	89.6	90.3	91.1	91.8	92.5	93.2	93.9	94.6
180	90.0	89.0	88.0	87.0	86.1	85.1	84.1	83.1	82.2	81.2	80.2	79.2	78.3	77.3	76.3
	84.6	85.5	86.3	87.1	87.9	88.7	89.4	90.2	91.0	91.7	92.5	93.2	94.0	94.7	95.4
185	94.9	94.0	93.0	92.0	91.0	90.0	89.1	88.1	87.1	86.1	85.1	84.2	83.2	82.2	81.2
	85.1	85.9	86.7	87.5	88.4	89.2	90.0	90.8	91.6	92.3	93.1	93.9	94.7	95.4	96.2
190	99.9	98.9	97.9	96.9	96.0	95.0	94.0	93.0	92.0	91.1	90.1	89.1	88.1	87.2	86.2
	85.4	86.3	87.1	88.0	88.8	89.6	90.4	91.3	92.1	92.9	93.7	94.5	95.3	96.0	96.8
195	105.	104.	103.	102.	101.	99.9	99.0	98.0	97.0	96.0	95.0	94.1	93.1	92.1	91.1
	85.8	86.6	87.5	88.3	89.2	90.0	90.9	91.7	92.5	93.3	94.2	95.0	95.8	96.6	97.4
200	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.0	98.0	97.0	96.1
	86.1	86.9	87.8	88.7	89.5	90.4	91.2	92.1	92.9	93.8	94.6	95.4	96.2	97.1	97.9
205	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.
	86.3	87.2	88.1	89.0	89.8	90.7	91.6	92.4	93.3	94.1	95.0	95.8	96.7	97.5	98.3
210	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.
	86.6	87.5	88.3	89.2	90.1	91.0	91.9	92.7	93.6	94.5	95.3	96.2	97.0	97.9	98.7
215	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.
	86.8	87.7	88.6	89.5	90.4	91.2	92.1	93.0	93.9	94.8	95.6	96.5	97.4	98.2	99.1
220	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.
	87.0	87.9	88.8	89.7	90.6	91.5	92.4	93.3	94.2	95.0	95.9	96.8	97.7	98.5	99.4
225	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.
	87.2	88.1	89.0	89.9	90.8	91.7	92.6	93.5	94.4	95.3	96.2	97.1	97.9	98.8	99.7
230	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.
	87.3	88.3	89.2	90.1	91.0	91.9	92.8	93.7	94.6	95.5	96.4	97.3	98.2	99.1	100.
235	145.	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.
	87.5	88.4	89.3	90.3	91.2	92.1	93.0	93.9	94.8	95.7	96.6	97.5	98.4	99.3	100.
240	150.	149.	148.	147.	146.	145.	144.	143.	142.	141.	140.	139.	138.	137.	136.
	87.6	88.6	89.5	90.4	91.3	92.3	93.2	94.1	95.0	95.9	96.8	97.7	98.6	99.5	100.
245	155.	154.	153.	152.	151.	150.	149.	148.	147.	146.	145.	144.	143.	142.	141.
	87.8	88.7	89.6	90.6	91.5	92.4	93.3	94.2	95.2	96.1	97.0	97.9	98.8	99.7	101.
250	160.	159.	158.	157.	156.	155.	154.	153.	152.	151.	150.	149.	148.	147.	146.
	87.9	88.8	89.8	90.7	91.6	92.5	93.5	94.4	95.3	96.2	97.2	98.1	99.0	99.9	101.
A	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105

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A em Erl	N 106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
135	31.9	31.0	30.1	29.2	28.3	27.5	26.6	25.7	24.8	24.0	23.1	22.3	21.4	20.6	19.8
	78.7	78.5	78.2	77.9	77.5	77.1	76.6	76.0	75.4	74.7	73.9	73.0	72.0	71.0	69.8
140	36.6	35.7	34.8	33.9	32.9	32.0	31.1	30.2	29.4	28.5	27.6	26.7	25.8	25.0	24.1
	82.4	82.4	82.4	82.3	82.2	82.0	81.7	81.4	81.1	80.6	80.1	79.6	78.9	78.2	77.5
145	41.3	40.4	39.5	38.6	37.6	36.7	35.8	34.9	34.0	33.1	32.2	31.3	30.4	29.5	28.6
	85.4	85.6	85.7	85.8	85.9	85.9	85.9	85.8	85.6	85.5	85.2	84.9	84.6	84.2	83.7
150	46.1	45.2	44.2	43.3	42.4	41.4	40.5	39.6	38.7	37.7	36.8	35.9	35.0	34.1	33.2
	87.9	88.2	88.5	88.7	88.9	89.1	89.2	89.3	89.4	89.4	89.3	89.3	89.1	89.0	88.7
155	50.9	50.0	49.0	48.1	47.2	46.2	45.3	44.3	43.4	42.5	41.5	40.6	39.7	38.8	37.8
	89.9	90.3	90.7	91.1	91.4	91.7	92.0	92.2	92.4	92.6	92.7	92.8	92.9	92.9	92.9
160	55.8	54.8	53.9	52.9	52.0	51.0	50.1	49.1	48.2	47.2	46.3	45.4	44.4	43.5	42.6
	91.6	92.1	92.6	93.0	93.4	93.9	94.2	94.6	94.9	95.2	95.5	95.7	95.9	96.1	96.2
165	60.7	59.7	58.7	57.8	56.8	55.9	54.9	54.0	53.0	52.1	51.1	50.2	49.2	48.3	47.3
	93.0	93.6	94.1	94.7	95.2	95.6	96.1	96.6	97.0	97.4	97.8	98.1	98.4	98.7	99.0
170	65.5	64.6	63.6	62.6	61.7	60.7	59.8	58.8	57.9	56.9	55.9	55.0	54.0	53.1	52.1
	94.2	94.8	95.4	96.0	96.6	97.2	97.7	98.2	98.7	99.2	99.7	100.	101.	101.	101.
175	70.4	69.5	68.5	67.5	66.6	65.6	64.6	63.7	62.7	61.8	60.8	59.8	58.9	57.9	57.0
	95.3	95.9	96.6	97.2	97.8	98.4	99.0	99.6	100.	101.	101.	102.	102.	103.	103.
180	75.3	74.4	73.4	72.4	71.5	70.5	69.5	68.6	67.6	66.6	65.7	64.7	63.8	62.8	61.8
	96.1	96.8	97.5	98.2	98.9	99.5	100.	101.	101.	102.	103.	103.	104.	104.	105.
185	80.3	79.3	78.3	77.4	76.4	75.4	74.4	73.5	72.5	71.5	70.6	69.6	68.6	67.7	66.7
	96.9	97.6	98.4	99.1	99.8	100.	101.	102.	103.	103.	104.	104.	105.	106.	106.
190	85.2	84.2	83.3	82.3	81.3	80.3	79.4	78.4	77.4	76.4	75.5	74.5	73.5	72.6	71.6
	97.6	98.3	99.1	99.8	101.	101.	102.	103.	103.	104.	105.	105.	106.	107.	107.
195	90.1	89.2	88.2	87.2	86.2	85.3	84.3	83.3	82.3	81.4	80.4	79.4	78.4	77.5	76.5
	98.2	99.0	99.7	101.	101.	102.	103.	104.	104.	105.	106.	106.	107.	108.	108.
200	95.1	94.1	93.1	92.1	91.2	90.2	89.2	88.2	87.3	86.3	85.3	84.3	83.4	82.4	81.4
	98.7	99.5	100.	101.	102.	103.	103.	104.	105.	106.	106.	107.	108.	109.	109.
205	100.	99.0	98.1	97.1	96.1	95.1	94.2	93.2	92.2	91.2	90.2	89.3	88.3	87.3	86.3
	99.2	100.	101.	102.	102.	103.	104.	105.	106.	106.	107.	108.	109.	109.	110.
210	105.	104.	103.	102.	101.	100.	99.1	98.1	97.1	96.2	95.2	94.2	93.2	92.2	91.3
	99.6	100.	101.	102.	103.	104.	105.	105.	106.	107.	108.	109.	109.	110.	111.
215	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.1	98.2	97.2	96.2
	99.9	101.	102.	102.	103.	104.	105.	106.	107.	107.	108.	109.	110.	111.	111.
220	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.
	100.	101.	102.	103.	104.	105.	105.	106.	107.	108.	109.	110.	110.	111.	112.
225	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.
	101.	101.	102.	103.	104.	105.	106.	107.	107.	108.	109.	110.	111.	112.	112.
230	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.
	101.	102.	103.	103.	104.	105.	106.	107.	108.	109.	110.	110.	111.	112.	113.
235	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.
	101.	102.	103.	104.	105.	106.	106.	107.	108.	109.	110.	111.	112.	112.	113.
240	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.
	101.	102.	103.	104.	105.	106.	107.	108.	108.	109.	110.	111.	112.	113.	114.
245	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.	130.	129.	128.	127.	126.
	102.	102.	103.	104.	105.	106.	107.	108.	109.	110.	110.	111.	112.	113.	114.
250	145.	144.	143.	142.	141.	140.	139.	138.	137.	136.	135.	134.	133.	132.	131.
	102.	103.	104.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	113.	114.
A	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120

N

R em Erl
D

A em Erl	N 121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
135	19.0	18.2	17.4	16.6	15.8	15.1	14.3	13.6	12.9	12.1	11.5	10.8	10.1	9.48	8.86
	68.6	67.3	65.9	64.4	62.8	61.2	59.4	57.6	55.7	53.7	51.6	49.5	47.3	45.1	42.8
140	23.3	22.4	21.6	20.8	19.9	19.1	18.3	17.5	16.8	16.0	15.2	14.5	13.7	13.0	12.3
	76.6	75.7	74.6	73.5	72.3	71.1	69.7	68.2	66.7	65.1	63.4	61.6	59.7	57.7	55.7
145	27.7	26.8	26.0	25.1	24.3	23.4	22.6	21.7	20.9	20.1	19.3	18.5	17.7	16.9	16.1
	83.1	82.5	81.8	81.1	80.2	79.3	78.3	77.3	76.1	74.8	73.5	72.1	70.6	69.0	67.3
150	32.3	31.4	30.5	29.6	28.7	27.8	27.0	26.1	25.2	24.4	23.5	22.7	21.9	21.1	20.2
	88.4	88.1	87.7	87.2	86.7	86.1	85.4	84.7	83.9	83.0	82.0	81.0	79.9	78.6	77.3
155	36.9	36.0	35.1	34.2	33.3	32.4	31.5	30.6	29.7	28.8	28.0	27.1	26.2	25.4	24.5
	92.8	92.7	92.5	92.3	92.0	91.7	91.3	90.8	90.3	89.7	89.1	88.4	87.6	86.7	85.8
160	41.6	40.7	39.8	38.9	38.0	37.0	36.1	35.2	34.3	33.4	32.5	31.6	30.7	29.9	29.0
	96.3	96.4	96.4	96.4	96.3	96.2	96.0	95.8	95.5	95.2	94.8	94.4	93.9	93.3	92.7
165	46.4	45.5	44.5	43.6	42.7	41.7	40.8	39.9	39.0	38.1	37.1	36.2	35.3	34.4	33.5
	99.2	99.4	99.6	99.7	99.8	99.9	99.9	99.9	99.8	99.7	99.6	99.4	99.1	98.8	98.4
170	51.2	50.3	49.3	48.4	47.4	46.5	45.6	44.6	43.7	42.8	41.8	40.9	40.0	39.1	38.2
	102.	102.	102.	103.	103.	103.	103.	103.	103.	103.	103.	103.	103.	103.	103.
175	56.0	55.1	54.1	53.2	52.2	51.3	50.3	49.4	48.5	47.5	46.6	45.6	44.7	43.8	42.9
	104.	104.	104.	105.	105.	106.	106.	106.	106.	107.	107.	107.	107.	107.	107.
180	60.9	59.9	59.0	58.0	57.1	56.1	55.2	54.2	53.3	52.3	51.4	50.4	49.5	48.5	47.6
	105.	106.	106.	107.	107.	108.	108.	108.	109.	109.	109.	110.	110.	110.	110.
185	65.7	64.8	63.8	62.9	61.9	60.9	60.0	59.0	58.1	57.1	56.2	55.2	54.3	53.3	52.4
	107.	107.	108.	108.	109.	109.	110.	110.	111.	111.	112.	112.	112.	113.	113.
190	70.6	69.7	68.7	67.7	66.8	65.8	64.9	63.9	62.9	62.0	61.0	60.1	59.1	58.2	57.2
	108.	109.	109.	110.	110.	111.	112.	112.	113.	113.	114.	114.	114.	115.	115.
195	75.5	74.6	73.6	72.6	71.7	70.7	69.7	68.8	67.8	66.8	65.9	64.9	64.0	63.0	62.0
	109.	110.	110.	111.	112.	112.	113.	113.	114.	115.	115.	116.	116.	117.	117.
200	80.4	79.5	78.5	77.5	76.6	75.6	74.6	73.7	72.7	71.7	70.8	69.8	68.8	67.9	66.9
	110.	111.	111.	112.	113.	113.	114.	115.	115.	116.	117.	117.	118.	118.	119.
205	85.4	84.4	83.4	82.4	81.5	80.5	79.5	78.6	77.6	76.6	75.7	74.7	73.7	72.8	71.8
	111.	112.	112.	113.	114.	114.	115.	116.	116.	117.	118.	118.	119.	120.	120.
210	90.3	89.3	88.3	87.4	86.4	85.4	84.4	83.5	82.5	81.5	80.6	79.6	78.6	77.7	76.7
	112.	112.	113.	114.	115.	115.	116.	117.	117.	118.	119.	119.	120.	121.	121.
215	95.2	94.3	93.3	92.3	91.3	90.3	89.4	88.4	87.4	86.4	85.5	84.5	83.5	82.6	81.6
	112.	113.	114.	115.	115.	116.	117.	118.	118.	119.	120.	120.	121.	122.	122.
220	100.	99.2	98.2	97.2	96.3	95.3	94.3	93.3	92.3	91.4	90.4	89.4	88.4	87.5	86.5
	113.	114.	114.	115.	116.	117.	117.	118.	119.	120.	120.	121.	122.	123.	123.
225	105.	104.	103.	102.	101.	100.	99.2	98.3	97.3	96.3	95.3	94.4	93.4	92.4	91.4
	113.	114.	115.	116.	117.	117.	118.	119.	120.	120.	121.	122.	123.	123.	124.
230	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.3	98.3	97.3	96.4
	114.	115.	115.	116.	117.	118.	119.	119.	120.	121.	122.	123.	123.	124.	125.
235	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.
	114.	115.	116.	117.	117.	118.	119.	120.	121.	122.	122.	123.	124.	125.	126.
240	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.
	115.	115.	116.	117.	118.	119.	120.	120.	121.	122.	123.	124.	125.	125.	126.
245	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.	115.	114.	113.	112.	111.
	115.	116.	117.	117.	118.	119.	120.	121.	122.	123.	123.	124.	125.	126.	127.
250	130.	129.	128.	127.	126.	125.	124.	123.	122.	121.	120.	119.	118.	117.	116.
	115.	116.	117.	118.	119.	119.	120.	121.	122.	123.	124.	125.	125.	126.	127.
A	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
	N														

R em Erl
D

A em Erl	N 136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
135	8.26	7.67	7.11	6.57	6.05	5.56	5.08	4.63	4.21	3.81	3.43	3.08	2.75	2.45	2.17
	40.5	38.2	35.8	33.5	31.2	28.9	26.6	24.4	22.3	20.2	18.2	16.4	14.6	12.9	11.4
140	11.6	11.0	10.3	9.65	9.03	8.43	7.84	7.28	6.74	6.21	5.72	5.24	4.79	4.36	3.95
	53.5	51.4	49.1	46.8	44.5	42.1	39.8	37.4	35.0	32.6	30.3	28.0	25.7	23.5	21.4
145	15.4	14.6	13.9	13.2	12.5	11.8	11.1	10.5	9.82	9.20	8.59	8.01	7.44	6.90	6.37
	65.5	63.7	61.7	59.7	57.6	55.4	53.2	50.9	48.6	46.2	43.8	41.4	38.9	36.5	34.1
150	19.4	18.6	17.8	17.1	16.3	15.5	14.8	14.1	13.3	12.6	12.0	11.3	10.6	9.98	9.36
	75.9	74.5	72.9	71.2	69.5	67.7	65.8	63.8	61.7	59.6	57.3	55.1	52.7	50.3	47.9
155	23.7	22.8	22.0	21.2	20.4	19.6	18.8	18.0	17.2	16.4	15.7	15.0	14.2	13.5	12.8
	84.7	83.6	82.4	81.2	79.8	78.4	76.8	75.2	73.5	71.7	69.8	67.9	65.8	63.7	61.5
160	28.1	27.2	26.4	25.5	24.7	23.8	23.0	22.2	21.3	20.5	19.7	18.9	18.1	17.4	16.6
	92.0	91.2	90.4	89.5	88.5	87.4	86.3	85.0	83.7	82.3	80.8	79.2	77.5	75.8	73.9
165	32.6	31.7	30.9	30.0	29.1	28.2	27.4	26.5	25.6	24.8	24.0	23.1	22.3	21.5	20.7
	98.0	97.5	97.0	96.4	95.7	94.9	94.1	93.2	92.3	91.2	90.1	88.9	87.6	86.2	84.7
170	37.2	36.3	35.4	34.5	33.6	32.7	31.9	31.0	30.1	29.2	28.3	27.5	26.6	25.8	24.9
	103.	103.	102.	102.	102.	101.	101.	100.	99.4	98.6	97.9	97.0	96.0	95.0	93.9
175	41.9	41.0	40.1	39.2	38.3	37.4	36.4	35.5	34.6	33.7	32.9	32.0	31.1	30.2	29.3
	107.	107.	107.	107.	107.	106.	106.	106.	105.	105.	104.	104.	103.	102.	102.
180	46.7	45.7	44.8	43.9	43.0	42.0	41.1	40.2	39.3	38.4	37.5	36.6	35.7	34.8	33.9
	110.	110.	111.	111.	111.	111.	110.	110.	110.	110.	110.	109.	109.	108.	108.
185	51.4	50.5	49.6	48.6	47.7	46.8	45.8	44.9	44.0	43.0	42.1	41.2	40.3	39.4	38.5
	113.	113.	114.	114.	114.	114.	114.	114.	114.	114.	114.	114.	114.	114.	113.
190	56.3	55.3	54.4	53.4	52.5	51.5	50.6	49.7	48.7	47.8	46.8	45.9	45.0	44.1	43.1
	116.	116.	116.	116.	117.	117.	117.	117.	118.	118.	118.	118.	118.	118.	118.
195	61.1	60.1	59.2	58.2	57.3	56.3	55.4	54.4	53.5	52.6	51.6	50.7	49.7	48.8	47.9
	118.	118.	118.	119.	119.	119.	120.	120.	120.	121.	121.	121.	121.	121.	121.
200	66.0	65.0	64.0	63.1	62.1	61.2	60.2	59.3	58.3	57.4	56.4	55.5	54.5	53.6	52.6
	119.	120.	120.	121.	121.	122.	122.	122.	123.	123.	123.	124.	124.	124.	124.
205	70.8	69.9	68.9	67.9	67.0	66.0	65.1	64.1	63.1	62.2	61.2	60.3	59.3	58.4	57.4
	121.	121.	122.	122.	123.	123.	124.	124.	125.	125.	126.	126.	126.	127.	127.
210	75.7	74.7	73.8	72.8	71.9	70.9	69.9	69.0	68.0	67.0	66.1	65.1	64.2	63.2	62.3
	122.	123.	123.	124.	124.	125.	125.	126.	126.	127.	127.	128.	128.	129.	129.
215	80.6	79.6	78.7	77.7	76.7	75.8	74.8	73.8	72.9	71.9	71.0	70.0	69.0	68.1	67.1
	123.	124.	124.	125.	126.	126.	127.	127.	128.	129.	129.	130.	130.	131.	131.
220	85.5	84.6	83.6	82.6	81.6	80.7	79.7	78.7	77.8	76.8	75.8	74.9	73.9	72.9	72.0
	124.	125.	125.	126.	127.	127.	128.	129.	129.	130.	130.	131.	132.	132.	133.
225	90.5	89.5	88.5	87.5	86.6	85.6	84.6	83.6	82.7	81.7	80.7	79.8	78.8	77.8	76.9
	125.	126.	126.	127.	128.	128.	129.	130.	130.	131.	132.	132.	133.	134.	134.
230	95.4	94.4	93.4	92.5	91.5	90.5	89.5	88.6	87.6	86.6	85.6	84.7	83.7	82.7	81.8
	126.	126.	127.	128.	129.	129.	130.	131.	131.	132.	133.	133.	134.	135.	135.
235	100.	99.3	98.4	97.4	96.4	95.4	94.5	93.5	92.5	91.5	90.6	89.6	88.6	87.6	86.7
	126.	127.	128.	129.	129.	130.	131.	132.	132.	133.	134.	134.	135.	136.	136.
240	105.	104.	103.	102.	101.	100.	99.4	98.4	97.4	96.5	95.5	94.5	93.5	92.6	91.6
	127.	128.	128.	129.	130.	131.	132.	132.	133.	134.	135.	135.	136.	137.	137.
245	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.	100.	99.4	98.5	97.5	96.5
	127.	128.	129.	130.	131.	131.	132.	133.	134.	135.	135.	136.	137.	138.	138.
250	115.	114.	113.	112.	111.	110.	109.	108.	107.	106.	105.	104.	103.	102.	101.
	128.	129.	130.	130.	131.	132.	133.	134.	134.	135.	136.	137.	137.	138.	139.
A	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
	N														

R em Erl
D

A em Erl	N 151	152	153	154	155	156	157	158	159	160	161	162	163	164	165
135	**1.91**	**1.68**	**1.46**	**1.27**	**1.10**	**0.94**	**0.81**	**0.69**	**0.58**	**0.49**	**0.41**	**0.34**	**0.28**	**0.23**	**0.19**
	9.99	8.69	7.51	6.45	5.50	4.66	3.92	3.28	2.72	2.24	1.84	1.50	1.21	0.97	0.78
140	**3.57**	**3.21**	**2.88**	**2.57**	**2.28**	**2.02**	**1.78**	**1.56**	**1.36**	**1.18**	**1.02**	**0.87**	**0.75**	**0.63**	**0.54**
	19.4	17.4	15.6	13.9	12.3	10.8	9.43	8.18	7.06	6.05	5.15	4.36	3.67	3.06	2.54
145	**5.87**	**5.39**	**4.94**	**4.51**	**4.10**	**3.71**	**3.35**	**3.01**	**2.69**	**2.40**	**2.13**	**1.88**	**1.65**	**1.45**	**1.26**
	31.7	29.3	27.0	24.7	22.6	20.5	18.5	16.6	14.8	13.2	11.6	10.2	8.88	7.69	6.62
150	**8.76**	**8.17**	**7.60**	**7.06**	**6.53**	**6.03**	**5.55**	**5.09**	**4.65**	**4.24**	**3.85**	**3.48**	**3.13**	**2.81**	**2.51**
	45.4	43.0	40.5	38.0	35.5	33.1	30.7	28.3	26.0	23.8	21.6	19.6	17.6	15.8	14.0
155	**12.1**	**11.4**	**10.8**	**10.1**	**9.52**	**8.92**	**8.33**	**7.76**	**7.21**	**6.69**	**6.18**	**5.70**	**5.23**	**4.79**	**4.38**
	59.2	56.9	54.5	52.1	49.6	47.1	44.6	42.0	39.5	37.0	34.5	32.0	29.6	27.2	25.0
160	**15.8**	**15.1**	**14.4**	**13.7**	**13.0**	**12.3**	**11.6**	**10.9**	**10.3**	**9.68**	**9.07**	**8.49**	**7.92**	**7.37**	**6.84**
	72.0	70.0	67.9	65.7	63.4	61.1	58.7	56.3	53.8	51.3	48.8	46.2	43.6	41.0	38.4
165	**19.9**	**19.1**	**18.3**	**17.5**	**16.7**	**16.0**	**15.3**	**14.5**	**13.8**	**13.1**	**12.4**	**11.8**	**11.1**	**10.5**	**9.84**
	83.2	81.5	79.8	78.0	76.1	74.1	72.0	69.9	67.7	65.4	63.0	60.6	58.1	55.6	53.0
170	**24.1**	**23.3**	**22.4**	**21.6**	**20.8**	**20.0**	**19.2**	**18.4**	**17.7**	**16.9**	**16.1**	**15.4**	**14.7**	**14.0**	**13.3**
	92.7	91.5	90.1	88.7	87.2	85.6	83.9	82.1	80.2	78.3	76.2	74.1	71.9	69.7	67.3
175	**28.5**	**27.6**	**26.7**	**25.9**	**25.1**	**24.2**	**23.4**	**22.6**	**21.7**	**20.9**	**20.1**	**19.4**	**18.6**	**17.8**	**17.0**
	101.	99.8	98.8	97.8	96.6	95.4	94.1	92.7	91.2	89.6	88.0	86.2	84.4	82.5	80.5
180	**33.0**	**32.1**	**31.2**	**30.3**	**29.5**	**28.6**	**27.7**	**26.9**	**26.0**	**25.2**	**24.3**	**23.5**	**22.7**	**21.9**	**21.1**
	107.	107.	106.	105.	105.	104.	103.	102.	100.	99.3	98.0	96.6	95.2	93.7	92.0
185	**37.6**	**36.7**	**35.8**	**34.9**	**34.0**	**33.1**	**32.2**	**31.3**	**30.4**	**29.6**	**28.7**	**27.8**	**27.0**	**26.1**	**25.3**
	113.	113.	112.	112.	111.	110.	110.	109.	108.	107.	106.	105.	104.	103.	102.
190	**42.2**	**41.3**	**40.4**	**39.5**	**38.6**	**37.7**	**36.8**	**35.9**	**35.0**	**34.1**	**33.2**	**32.3**	**31.4**	**30.6**	**29.7**
	118.	117.	117.	117.	117.	116.	116.	115.	115.	114.	114.	113.	112.	111.	110.
195	**46.9**	**46.0**	**45.1**	**44.2**	**43.2**	**42.3**	**41.4**	**40.5**	**39.6**	**38.7**	**37.8**	**36.9**	**36.0**	**35.1**	**34.2**
	121.	121.	121.	121.	121.	121.	121.	121.	120.	120.	119.	119.	119.	118.	117.
200	**51.7**	**50.8**	**49.8**	**48.9**	**48.0**	**47.0**	**46.1**	**45.2**	**44.2**	**43.3**	**42.4**	**41.5**	**40.6**	**39.7**	**38.8**
	125.	125.	125.	125.	125.	125.	125.	125.	125.	125.	124.	124.	124.	124.	123.
205	**56.5**	**55.5**	**54.6**	**53.7**	**52.7**	**51.8**	**50.8**	**49.9**	**49.0**	**48.0**	**47.1**	**46.2**	**45.3**	**44.3**	**43.4**
	127.	128.	128.	128.	128.	128.	128.	129.	129.	129.	129.	129.	128.	128.	128.
210	**61.3**	**60.4**	**59.4**	**58.5**	**57.5**	**56.6**	**55.6**	**54.7**	**53.7**	**52.8**	**51.9**	**50.9**	**50.0**	**49.1**	**48.1**
	130.	130.	130.	131.	131.	131.	131.	132.	132.	132.	132.	132.	132.	132.	132.
215	**66.2**	**65.2**	**64.2**	**63.3**	**62.3**	**61.4**	**60.4**	**59.5**	**58.5**	**57.6**	**56.6**	**55.7**	**54.8**	**53.8**	**52.9**
	132.	132.	132.	133.	133.	134.	134.	134.	134.	135.	135.	135.	135.	136.	136.
220	**71.0**	**70.1**	**69.1**	**68.1**	**67.2**	**66.2**	**65.3**	**64.3**	**63.4**	**62.4**	**61.5**	**60.5**	**59.6**	**58.6**	**57.7**
	133.	134.	134.	135.	135.	136.	136.	136.	137.	137.	138.	138.	138.	138.	139.
225	**75.9**	**74.9**	**74.0**	**73.0**	**72.0**	**71.1**	**70.1**	**69.2**	**68.2**	**67.2**	**66.3**	**65.3**	**64.4**	**63.4**	**62.5**
	135.	135.	136.	136.	137.	137.	138.	138.	139.	139.	140.	140.	140.	141.	141.
230	**80.8**	**79.8**	**78.9**	**77.9**	**76.9**	**76.0**	**75.0**	**74.0**	**73.1**	**72.1**	**71.1**	**70.2**	**69.2**	**68.3**	**67.3**
	136.	137.	137.	138.	138.	139.	139.	140.	141.	141.	142.	142.	142.	143.	143.
235	**85.7**	**84.7**	**83.8**	**82.8**	**81.8**	**80.8**	**79.9**	**78.9**	**77.9**	**77.0**	**76.0**	**75.1**	**74.1**	**73.1**	**72.2**
	137.	138.	138.	139.	140.	140.	141.	141.	142.	143.	143.	144.	144.	145.	145.
240	**90.6**	**89.6**	**88.7**	**87.7**	**86.7**	**85.7**	**84.8**	**83.8**	**82.8**	**81.9**	**80.9**	**79.9**	**79.0**	**78.0**	**77.0**
	138.	139.	139.	140.	141.	141.	142.	143.	143.	144.	145.	145.	146.	146.	147.
245	**95.5**	**94.6**	**93.6**	**92.6**	**91.6**	**90.7**	**89.7**	**88.7**	**87.7**	**86.8**	**85.8**	**84.8**	**83.9**	**82.9**	**81.9**
	139.	140.	140.	141.	142.	142.	143.	144.	144.	145.	146.	146.	147.	148.	148.
250	**100.**	**99.5**	**98.5**	**97.5**	**96.6**	**95.6**	**94.6**	**93.6**	**92.7**	**91.7**	**90.7**	**89.7**	**88.8**	**87.8**	**86.8**
	140.	140.	141.	142.	143.	143.	144.	145.	145.	146.	147.	148.	148.	149.	149.
A	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165
	N														

R em Erl
D

A em Erl	N 166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
135	**0.15**	**0.12**	**0.10**	**0.08**	**0.06**	**0.05**	**0.04**	**0.03**	**0.02**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	
	0.62	0.49	0.38	0.30	0.23	0.18	0.14	0.10	0.08	0.06	0.04	0.03	0.02	0.02	
140	**0.45**	**0.38**	**0.31**	**0.26**	**0.21**	**0.17**	**0.14**	**0.11**	**0.09**	**0.07**	**0.06**	**0.05**	**0.04**	**0.03**	**0.02**
	2.10	1.72	1.40	1.13	0.91	0.73	0.58	0.46	0.36	0.28	0.22	0.17	0.13	0.10	0.08
145	**1.09**	**0.94**	**0.81**	**0.69**	**0.59**	**0.50**	**0.42**	**0.35**	**0.29**	**0.24**	**0.20**	**0.16**	**0.13**	**0.11**	**0.09**
	5.67	4.82	4.08	3.42	2.86	2.37	1.95	1.60	1.30	1.06	0.85	0.68	0.54	0.43	0.34
150	**2.24**	**1.98**	**1.75**	**1.54**	**1.34**	**1.17**	**1.01**	**0.87**	**0.75**	**0.64**	**0.54**	**0.46**	**0.39**	**0.32**	**0.27**
	12.4	11.0	9.59	8.35	7.22	6.21	5.30	4.51	3.80	3.19	2.66	2.21	1.82	1.49	1.22
155	**3.98**	**3.61**	**3.26**	**2.93**	**2.63**	**2.35**	**2.09**	**1.85**	**1.63**	**1.43**	**1.25**	**1.09**	**0.94**	**0.81**	**0.69**
	22.8	20.7	18.6	16.7	15.0	13.3	11.7	10.3	9.02	7.83	6.76	5.81	4.96	4.21	3.55
160	**6.33**	**5.85**	**5.38**	**4.94**	**4.51**	**4.12**	**3.74**	**3.39**	**3.05**	**2.74**	**2.46**	**2.19**	**1.94**	**1.72**	**1.51**
	35.9	33.4	30.9	28.5	26.2	23.9	21.8	19.7	17.7	15.9	14.2	12.6	11.1	9.71	8.47
165	**9.23**	**8.64**	**8.07**	**7.52**	**6.99**	**6.48**	**5.99**	**5.52**	**5.08**	**4.65**	**4.25**	**3.87**	**3.51**	**3.17**	**2.86**
	50.4	47.8	45.2	42.5	39.9	37.3	34.8	32.2	29.8	27.4	25.1	22.9	20.8	18.7	16.8
170	**12.6**	**11.9**	**11.3**	**10.6**	**9.99**	**9.38**	**8.80**	**8.22**	**7.67**	**7.14**	**6.63**	**6.14**	**5.67**	**5.22**	**4.79**
	64.9	62.4	59.9	57.3	54.7	52.1	49.4	46.7	44.1	41.4	38.7	36.1	33.6	31.1	28.6
175	**16.3**	**15.6**	**14.8**	**14.1**	**13.4**	**12.7**	**12.1**	**11.4**	**10.8**	**10.1**	**9.54**	**8.95**	**8.37**	**7.82**	**7.29**
	78.4	76.2	74.0	71.6	69.3	66.8	64.3	61.7	59.1	56.4	53.7	51.0	48.3	45.6	42.9
180	**20.3**	**19.5**	**18.7**	**17.9**	**17.2**	**16.4**	**15.7**	**15.0**	**14.3**	**13.6**	**12.9**	**12.2**	**11.6**	**10.9**	**10.3**
	90.3	88.5	86.7	84.7	82.6	80.5	78.3	76.0	73.6	71.2	68.7	66.1	63.5	60.8	58.1
185	**24.5**	**23.6**	**22.8**	**22.0**	**21.2**	**20.4**	**19.6**	**18.8**	**18.1**	**17.3**	**16.6**	**15.8**	**15.1**	**14.4**	**13.7**
	101.	99.2	97.7	96.1	94.4	92.7	90.8	88.9	86.9	84.8	82.6	80.4	78.0	75.6	73.1
190	**28.8**	**28.0**	**27.1**	**26.3**	**25.4**	**24.6**	**23.8**	**23.0**	**22.1**	**21.3**	**20.5**	**19.8**	**19.0**	**18.2**	**17.5**
	109.	108.	107.	106.	105.	103.	102.	100.	98.6	96.9	95.0	93.2	91.2	89.1	87.0
195	**33.3**	**32.4**	**31.5**	**30.7**	**29.8**	**28.9**	**28.1**	**27.2**	**26.4**	**25.6**	**24.7**	**23.9**	**23.1**	**22.3**	**21.5**
	117.	116.	115.	114.	113.	112.	111.	110.	109.	107.	106.	104.	103.	101.	99.3
200	**37.9**	**37.0**	**36.1**	**35.2**	**34.3**	**33.4**	**32.5**	**31.7**	**30.8**	**29.9**	**29.1**	**28.2**	**27.4**	**26.5**	**25.7**
	123.	122.	122.	121.	120.	120.	119.	118.	117.	116.	115.	114.	113.	111.	110.
205	**42.5**	**41.6**	**40.7**	**39.8**	**38.9**	**38.0**	**37.1**	**36.2**	**35.3**	**34.4**	**33.5**	**32.6**	**31.8**	**30.9**	**30.0**
	128.	128.	127.	127.	126.	126.	125.	125.	124.	123.	123.	122.	121.	120.	119.
210	**47.2**	**46.3**	**45.4**	**44.4**	**43.5**	**42.6**	**41.7**	**40.8**	**39.9**	**39.0**	**38.1**	**37.2**	**36.3**	**35.4**	**34.5**
	132.	132.	132.	132.	132.	131.	131.	131.	130.	130.	129.	129.	128.	127.	127.
215	**51.9**	**51.0**	**50.1**	**49.1**	**48.2**	**47.3**	**46.4**	**45.4**	**44.5**	**43.6**	**42.7**	**41.8**	**40.9**	**40.0**	**39.1**
	136.	136.	136.	136.	136.	136.	136.	135.	135.	135.	135.	134.	134.	133.	133.
220	**56.7**	**55.8**	**54.8**	**53.9**	**53.0**	**52.0**	**51.1**	**50.2**	**49.2**	**48.3**	**47.4**	**46.4**	**45.5**	**44.6**	**43.7**
	139.	139.	139.	139.	139.	139.	139.	139.	139.	139.	139.	139.	139.	139.	138.
225	**61.5**	**60.6**	**59.6**	**58.7**	**57.7**	**56.8**	**55.9**	**54.9**	**54.0**	**53.0**	**52.1**	**51.2**	**50.2**	**49.3**	**48.4**
	141.	142.	142.	142.	142.	143.	143.	143.	143.	143.	143.	143.	143.	143.	143.
230	**66.4**	**65.4**	**64.4**	**63.5**	**62.5**	**61.6**	**60.6**	**59.7**	**58.8**	**57.8**	**56.9**	**55.9**	**55.0**	**54.1**	**53.1**
	144.	144.	144.	145.	145.	145.	146.	146.	146.	146.	146.	147.	147.	147.	147.
235	**71.2**	**70.2**	**69.3**	**68.3**	**67.4**	**66.4**	**65.5**	**64.5**	**63.6**	**62.6**	**61.7**	**60.7**	**59.8**	**58.8**	**57.9**
	146.	146.	147.	147.	147.	148.	148.	148.	149.	149.	149.	150.	150.	150.	150.
240	**76.1**	**75.1**	**74.2**	**73.2**	**72.2**	**71.3**	**70.3**	**69.4**	**68.4**	**67.4**	**66.5**	**65.5**	**64.6**	**63.6**	**62.7**
	147.	148.	148.	149.	149.	150.	150.	151.	151.	151.	152.	152.	152.	153.	153.
245	**81.0**	**80.0**	**79.0**	**78.1**	**77.1**	**76.1**	**75.2**	**74.2**	**73.3**	**72.3**	**71.3**	**70.4**	**69.4**	**68.5**	**67.5**
	149.	149.	150.	150.	151.	151.	152.	152.	153.	153.	154.	154.	155.	155.	155.
250	**85.9**	**84.9**	**83.9**	**82.9**	**82.0**	**81.0**	**80.0**	**79.1**	**78.1**	**77.2**	**76.2**	**75.2**	**74.3**	**73.3**	**72.4**
	150.	151.	151.	152.	152.	153.	154.	154.	155.	155.	156.	156.	157.	157.	157.
A	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
	N														

A em Erl	N 181	182	183	184	185	186	187	188	189	190	191	192	193	194	195
135															
140	0.02	0.01	0.01	0.01	0.01										
	0.06	0.04	0.03	0.02	0.02										
145	0.07	0.05	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01				
	0.26	0.21	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02				
150	0.22	0.18	0.15	0.12	0.10	0.08	0.06	0.05	0.04	0.03	0.03	0.02	0.02	0.01	0.01
	0.98	0.79	0.64	0.51	0.40	0.32	0.25	0.19	0.15	0.12	0.09	0.07	0.05	0.04	0.03
155	0.59	0.50	0.42	0.36	0.30	0.25	0.21	0.17	0.14	0.11	0.09	0.07	0.06	0.05	0.04
	2.97	2.48	2.06	1.69	1.39	1.13	0.92	0.74	0.59	0.47	0.37	0.30	0.23	0.18	0.14
160	1.33	1.16	1.01	0.87	0.75	0.64	0.55	0.46	0.39	0.33	0.28	0.23	0.19	0.16	0.13
	7.34	6.33	5.43	4.62	3.92	3.30	2.77	2.31	1.91	1.57	1.29	1.05	0.85	0.69	0.55
165	2.56	2.29	2.04	1.81	1.60	1.41	1.23	1.07	0.93	0.81	0.69	0.59	0.51	0.43	0.36
	15.1	13.4	11.8	10.4	9.12	7.94	6.87	5.91	5.06	4.31	3.65	3.07	2.57	2.14	1.77
170	4.38	4.00	3.63	3.29	2.97	2.67	2.40	2.14	1.90	1.69	1.49	1.31	1.14	1.00	0.86
	26.3	24.0	21.8	19.8	17.8	16.0	14.2	12.6	11.1	9.79	8.55	7.43	6.42	5.52	4.72
175	6.77	6.28	5.81	5.35	4.92	4.51	4.12	3.75	3.41	3.08	2.78	2.50	2.24	1.99	1.77
	40.2	37.5	34.9	32.4	29.9	27.5	25.1	22.9	20.8	18.8	16.9	15.1	13.4	11.9	10.5
180	9.68	9.09	8.52	7.97	7.43	6.92	6.42	5.94	5.49	5.05	4.64	4.25	3.88	3.53	3.20
	55.4	52.6	49.9	47.1	44.4	41.6	38.9	36.3	33.7	31.1	28.7	26.3	24.0	21.8	19.8
185	13.0	12.4	11.7	11.1	10.4	9.83	9.24	8.67	8.11	7.57	7.06	6.56	6.08	5.62	5.18
	70.6	68.0	65.3	62.6	59.8	57.1	54.3	51.5	48.7	45.9	43.1	40.3	37.6	35.0	32.4
190	16.7	16.0	15.3	14.6	13.9	13.2	12.5	11.8	11.2	10.6	9.98	9.39	8.81	8.25	7.72
	84.7	82.4	80.0	77.6	75.1	72.5	69.8	67.1	64.3	61.6	58.7	55.9	53.0	50.2	47.3
195	20.7	19.9	19.1	18.4	17.6	16.9	16.1	15.4	14.7	14.0	13.3	12.6	12.0	11.4	10.7
	97.4	95.5	93.4	91.3	89.1	86.8	84.5	82.1	79.6	77.0	74.3	71.6	68.9	66.1	63.3
200	24.8	24.0	23.2	22.4	21.6	20.8	20.0	19.3	18.5	17.7	17.0	16.3	15.5	14.8	14.1
	108.	107.	105.	103.	102.	99.7	97.8	95.7	93.5	91.3	89.0	86.6	84.1	81.5	78.9
205	29.2	28.3	27.5	26.6	25.8	25.0	24.1	23.3	22.5	21.7	20.9	20.2	19.4	18.6	17.9
	118.	117.	115.	114.	112.	111.	109.	108.	106.	104.	102.	100.	97.9	95.7	93.4
210	33.6	32.7	31.9	31.0	30.1	29.3	28.4	27.6	26.8	25.9	25.1	24.3	23.5	22.7	21.9
	126.	125.	124.	123.	122.	121.	119.	118.	117.	115.	114.	112.	110.	108.	106.
215	38.2	37.3	36.4	35.5	34.6	33.7	32.9	32.0	31.1	30.3	29.4	28.5	27.7	26.9	26.0
	132.	132.	131.	130.	130.	129.	128.	127.	126.	125.	123.	122.	121.	119.	118.
220	42.8	41.9	41.0	40.1	39.2	38.3	37.4	36.5	35.6	34.7	33.8	33.0	32.1	31.2	30.4
	138.	138.	137.	137.	136.	136.	135.	134.	133.	133.	132.	131.	130.	129.	127.
225	47.5	46.5	45.6	44.7	43.8	42.9	42.0	41.1	40.2	39.3	38.4	37.5	36.6	35.7	34.8
	143.	143.	142.	142.	142.	141.	141.	141.	140.	139.	139.	138.	137.	137.	136.
230	52.2	51.3	50.3	49.4	48.5	47.5	46.6	45.7	44.8	43.9	43.0	42.1	41.2	40.3	39.4
	147.	147.	147.	147.	146.	146.	146.	146.	146.	145.	145.	144.	144.	143.	143.
235	56.9	56.0	55.1	54.1	53.2	52.3	51.3	50.4	49.5	48.6	47.6	46.7	45.8	44.9	44.0
	150.	150.	150.	150.	151.	150.	150.	150.	150.	150.	150.	150.	149.	149.	149.
240	61.7	60.8	59.8	58.9	58.0	57.0	56.1	55.1	54.2	53.3	52.3	51.4	50.5	49.6	48.6
	153.	153.	154.	154.	154.	154.	154.	154.	154.	154.	154.	154.	154.	154.	154.
245	66.6	65.6	64.7	63.7	62.8	61.8	60.9	59.9	59.0	58.0	57.1	56.2	55.2	54.3	53.4
	156.	156.	156.	157.	157.	157.	157.	157.	158.	158.	158.	158.	158.	158.	158.
250	71.4	70.4	69.5	68.5	67.6	66.6	65.7	64.7	63.8	62.8	61.9	60.9	60.0	59.0	58.1
	158.	158.	159.	159.	159.	160.	160.	160.	161.	161.	161.	161.	161.	161.	161.
A	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195

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A em Erl	N 196	197	198	199	200	201	202	203	204	205	206	207	208	209	210
135															
140															
145															
150	0.01	0.01													
	0.02	0.02													
155	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01							
	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02							
160	0.10	0.08	0.07	0.06	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01		
	0.44	0.35	0.28	0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.04	0.03	0.02		
165	0.30	0.25	0.21	0.18	0.14	0.12	0.10	0.08	0.06	0.05	0.04	0.03	0.03	0.02	0.02
	1.46	1.20	0.98	0.79	0.64	0.51	0.41	0.33	0.26	0.20	0.16	0.12	0.10	0.07	0.06
170	0.75	0.64	0.55	0.47	0.40	0.33	0.28	0.24	0.20	0.16	0.13	0.11	0.09	0.07	0.06
	4.01	3.39	2.86	2.39	1.99	1.65	1.36	1.11	0.91	0.74	0.59	0.48	0.38	0.30	0.24
175	1.57	1.38	1.21	1.06	0.92	0.80	0.69	0.59	0.51	0.43	0.37	0.31	0.26	0.22	0.18
	9.18	8.01	6.95	5.99	5.15	4.39	3.73	3.15	2.65	2.22	1.85	1.53	1.26	1.03	0.84
180	2.89	2.60	2.33	2.09	1.86	1.65	1.46	1.28	1.13	0.98	0.85	0.74	0.64	0.55	0.47
	17.8	16.0	14.2	12.7	11.2	9.83	8.60	7.49	6.49	5.59	4.79	4.09	3.47	2.93	2.46
185	4.77	4.37	4.00	3.64	3.31	3.00	2.70	2.43	2.18	1.95	1.73	1.53	1.35	1.19	1.04
	29.9	27.4	25.1	22.9	20.8	18.7	16.8	15.1	13.4	11.9	10.5	9.21	8.05	7.00	6.05
190	7.20	6.70	6.22	5.75	5.31	4.89	4.49	4.12	3.76	3.42	3.10	2.81	2.53	2.27	2.03
	44.5	41.7	39.0	36.3	33.7	31.1	28.6	26.2	23.9	21.8	19.7	17.7	15.9	14.2	12.6
195	10.1	9.53	8.95	8.40	7.86	7.33	6.83	6.35	5.89	5.44	5.02	4.62	4.23	3.87	3.53
	60.4	57.5	54.6	51.7	48.8	46.0	43.1	40.3	37.6	34.9	32.3	29.8	27.4	25.0	22.8
200	13.5	12.8	12.1	11.5	10.9	10.3	9.67	9.09	8.53	7.99	7.47	6.97	6.48	6.02	5.57
	76.2	73.5	70.7	67.9	65.0	62.1	59.2	56.2	53.3	50.4	47.4	44.6	41.7	38.9	36.2
205	17.1	16.4	15.7	15.0	14.3	13.6	12.9	12.3	11.6	11.0	10.4	9.81	9.23	8.67	8.13
	91.1	88.6	86.1	83.5	80.8	78.1	75.3	72.5	69.6	66.7	63.8	60.8	57.8	54.8	51.9
210	21.1	20.3	19.5	18.8	18.0	17.3	16.5	15.8	15.1	14.4	13.7	13.1	12.4	11.8	11.1
	104.	102.	100.	97.9	95.6	93.2	90.7	88.1	85.5	82.8	80.0	77.2	74.3	71.4	68.4
215	25.2	24.4	23.6	22.8	22.0	21.2	20.4	19.6	18.9	18.1	17.4	16.7	16.0	15.2	14.6
	116.	114.	113.	111.	109.	107.	105.	102.	100.	97.7	95.3	92.7	90.1	87.4	84.7
220	29.5	28.7	27.8	27.0	26.2	25.3	24.5	23.7	22.9	22.1	21.3	20.5	19.8	19.0	18.3
	126.	125.	123.	122.	120.	119.	117.	115.	113.	111.	109.	107.	105.	102.	99.8
225	33.9	33.1	32.2	31.3	30.5	29.6	28.8	27.9	27.1	26.3	25.4	24.6	23.8	23.0	22.2
	135.	134.	133.	131.	130.	129.	127.	126.	124.	123.	121.	119.	117.	116.	113.
230	38.5	37.6	36.7	35.8	34.9	34.0	33.2	32.3	31.4	30.6	29.7	28.9	28.0	27.2	26.4
	142.	141.	140.	140.	139.	138.	137.	135.	134.	133.	132.	130.	129.	127.	125.
235	43.1	42.1	41.2	40.3	39.4	38.6	37.7	36.8	35.9	35.0	34.1	33.3	32.4	31.5	30.7
	148.	148.	147.	146.	146.	145.	144.	143.	143.	142.	141.	139.	138.	137.	136.
240	47.7	46.8	45.9	45.0	44.1	43.1	42.2	41.3	40.4	39.5	38.6	37.8	36.9	36.0	35.1
	153.	153.	153.	152.	152.	151.	151.	150.	150.	149.	148.	147.	147.	146.	145.
245	52.4	51.5	50.6	49.6	48.7	47.8	46.9	46.0	45.1	44.1	43.2	42.3	41.4	40.5	39.6
	158.	158.	157.	157.	157.	157.	156.	156.	156.	155.	155.	154.	154.	153.	152.
250	57.2	56.2	55.3	54.4	53.4	52.5	51.6	50.6	49.7	48.8	47.9	47.0	46.0	45.1	44.2
	162.	162.	162.	162.	161.	161.	161.	161.	161.	161.	160.	160.	159.	159.	159.
A	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210

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R em Erl
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A em Erl	N 211	212	213	214	215	216	217	218	219	220	221	222	223	224	225
135															
140															
145															
150															
155															
160															
165	**0.01** 0.04	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02											
170	**0.05** 0.19	**0.04** 0.15	**0.03** 0.12	**0.02** 0.09	**0.02** 0.07	**0.02** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.02					
175	**0.15** 0.68	**0.12** 0.55	**0.10** 0.44	**0.08** 0.36	**0.07** 0.28	**0.05** 0.22	**0.04** 0.18	**0.04** 0.14	**0.03** 0.11	**0.02** 0.08	**0.02** 0.07	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02
180	**0.40** 2.06	**0.34** 1.71	**0.29** 1.42	**0.24** 1.17	**0.20** 0.96	**0.17** 0.78	**0.14** 0.63	**0.11** 0.51	**0.09** 0.41	**0.08** 0.33	**0.06** 0.26	**0.05** 0.21	**0.04** 0.17	**0.03** 0.13	**0.03** 0.10
185	**0.91** 5.21	**0.79** 4.46	**0.68** 3.80	**0.59** 3.22	**0.51** 2.72	**0.43** 2.28	**0.37** 1.90	**0.31** 1.58	**0.26** 1.31	**0.22** 1.08	**0.18** 0.88	**0.15** 0.72	**0.13** 0.59	**0.11** 0.47	**0.09** 0.38
190	**1.81** 11.2	**1.61** 9.84	**1.43** 8.62	**1.26** 7.52	**1.11** 6.53	**0.97** 5.64	**0.84** 4.84	**0.73** 4.14	**0.63** 3.53	**0.55** 2.99	**0.47** 2.52	**0.40** 2.11	**0.34** 1.76	**0.29** 1.47	**0.24** 1.21
195	**3.21** 20.7	**2.91** 18.7	**2.63** 16.8	**2.36** 15.0	**2.12** 13.4	**1.90** 11.9	**1.69** 10.5	**1.50** 9.22	**1.33** 8.06	**1.17** 7.02	**1.03** 6.08	**0.90** 5.25	**0.78** 4.50	**0.68** 3.85	**0.59** 3.27
200	**5.14** 33.5	**4.74** 31.0	**4.35** 28.5	**3.99** 26.1	**3.64** 23.8	**3.31** 21.6	**3.01** 19.6	**2.72** 17.7	**2.46** 15.8	**2.21** 14.2	**1.98** 12.6	**1.77** 11.1	**1.57** 9.82	**1.39** 8.62	**1.23** 7.53
205	**7.61** 48.9	**7.10** 46.0	**6.61** 43.1	**6.14** 40.3	**5.70** 37.5	**5.27** 34.8	**4.86** 32.2	**4.47** 29.6	**4.10** 27.2	**3.75** 24.9	**3.42** 22.6	**3.11** 20.5	**2.82** 18.5	**2.55** 16.7	**2.30** 14.9
210	**10.5** 65.4	**9.95** 62.4	**9.37** 59.4	**8.81** 56.4	**8.26** 53.4	**7.74** 50.4	**7.23** 47.4	**6.74** 44.5	**6.27** 41.6	**5.82** 38.8	**5.39** 36.0	**4.98** 33.4	**4.58** 30.8	**4.21** 28.3	**3.86** 25.9
215	**13.9** 81.9	**13.2** 79.0	**12.6** 76.1	**11.9** 73.1	**11.3** 70.1	**10.7** 67.1	**10.1** 64.1	**9.50** 61.0	**8.94** 57.9	**8.40** 54.9	**7.87** 51.9	**7.36** 48.8	**6.87** 45.9	**6.40** 43.0	**5.94** 40.1
220	**17.5** 97.3	**16.8** 94.8	**16.1** 92.1	**15.4** 89.4	**14.7** 86.6	**14.0** 83.8	**13.3** 80.9	**12.7** 77.9	**12.0** 74.9	**11.4** 71.9	**10.8** 68.8	**10.2** 65.7	**9.64** 62.6	**9.07** 59.5	**8.53** 56.4
225	**21.4** 111.	**20.7** 109.	**19.9** 107.	**19.1** 104.	**18.4** 102.	**17.7** 99.4	**16.9** 96.8	**16.2** 94.1	**15.5** 91.4	**14.8** 88.5	**14.1** 85.6	**13.5** 82.7	**12.8** 79.7	**12.2** 76.7	**11.6** 73.6
230	**25.6** 124.	**24.8** 122.	**23.9** 120.	**23.1** 118.	**22.4** 116.	**21.6** 114.	**20.8** 111.	**20.0** 109.	**19.3** 107.	**18.5** 104.	**17.8** 102.	**17.1** 98.9	**16.3** 96.1	**15.6** 93.3	**15.0** 90.4
235	**29.8** 134.	**29.0** 133.	**28.2** 131.	**27.3** 130.	**26.5** 128.	**25.7** 126.	**24.9** 124.	**24.1** 122.	**23.3** 120.	**22.5** 118.	**21.7** 116.	**20.9** 114.	**20.2** 111.	**19.4** 109.	**18.7** 106.
240	**34.2** 144.	**33.4** 142.	**32.5** 141.	**31.7** 140.	**30.8** 139.	**30.0** 137.	**29.1** 136.	**28.3** 134.	**27.4** 132.	**26.6** 131.	**25.8** 129.	**25.0** 127.	**24.2** 125.	**23.4** 123.	**22.6** 120.
245	**38.7** 151.	**37.9** 150.	**37.0** 149.	**36.1** 148.	**35.2** 146.	**34.3** 145.	**33.5** 144.	**32.6** 143.	**31.8** 141.	**30.9** 140.	**30.1** 138.	**29.2** 137.	**28.4** 135.	**27.6** 133.	**26.7** 131.
250	**43.3** 158.	**42.4** 157.	**41.5** 157.	**40.6** 156.	**39.7** 155.	**38.8** 154.	**38.0** 154.	**37.1** 153.	**36.2** 152.	**35.3** 151.	**34.4** 149.	**33.6** 148.	**32.7** 147.	**31.9** 145.	**31.0** 144.
A	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225

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R em Erl
D

226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	A em Erl
															135
															140
															145
															150
															155
															160
															165
															170
															175
0.01 0.02															180
0.02 0.08	**0.02** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02										185
0.07 0.31	**0.06** 0.24	**0.05** 0.19	**0.04** 0.15	**0.03** 0.12	**0.02** 0.10	**0.02** 0.07	**0.02** 0.06	**0.01** 0.04	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02				190
0.20 1.00	**0.17** 0.82	**0.14** 0.67	**0.12** 0.54	**0.10** 0.44	**0.08** 0.35	**0.07** 0.28	**0.05** 0.23	**0.04** 0.18	**0.03** 0.14	**0.03** 0.11	**0.02** 0.09	**0.02** 0.07	**0.01** 0.05	**0.01** 0.04	195
0.50 2.77	**0.43** 2.33	**0.37** 1.95	**0.31** 1.63	**0.27** 1.36	**0.22** 1.12	**0.19** 0.92	**0.16** 0.76	**0.13** 0.62	**0.11** 0.50	**0.09** 0.41	**0.07** 0.33	**0.06** 0.26	**0.05** 0.21	**0.04** 0.17	200
1.08 6.54	**0.95** 5.66	**0.83** 4.88	**0.72** 4.18	**0.63** 3.57	**0.54** 3.03	**0.47** 2.56	**0.40** 2.16	**0.34** 1.81	**0.29** 1.51	**0.24** 1.25	**0.21** 1.04	**0.17** 0.85	**0.14** 0.70	**0.12** 0.57	205
2.06 13.3	**1.85** 11.8	**1.65** 10.4	**1.46** 9.19	**1.30** 8.05	**1.14** 7.02	**1.01** 6.09	**0.88** 5.27	**0.77** 4.53	**0.67** 3.88	**0.58** 3.31	**0.50** 2.81	**0.43** 2.37	**0.37** 2.00	**0.31** 1.67	210
3.53 23.6	**3.21** 21.5	**2.92** 19.4	**2.64** 17.5	**2.38** 15.7	**2.15** 14.1	**1.92** 12.5	**1.72** 11.1	**1.53** 9.78	**1.36** 8.59	**1.20** 7.51	**1.06** 6.54	**0.93** 5.67	**0.82** 4.89	**0.71** 4.20	215
5.51 37.3	**5.10** 34.6	**4.70** 31.9	**4.32** 29.4	**3.97** 27.0	**3.63** 24.7	**3.31** 22.4	**3.01** 20.4	**2.73** 18.4	**2.47** 16.5	**2.23** 14.8	**2.00** 13.2	**1.79** 11.7	**1.60** 10.4	**1.43** 9.14	220
8.00 53.3	**7.49** 50.3	**7.00** 47.3	**6.52** 44.3	**6.07** 41.4	**5.63** 38.6	**5.21** 35.8	**4.81** 33.1	**4.43** 30.5	**4.07** 28.1	**3.73** 25.7	**3.41** 23.4	**3.11** 21.3	**2.83** 19.3	**2.56** 17.4	225
10.9 70.5	**10.3** 67.3	**9.77** 64.2	**9.21** 61.1	**8.66** 57.9	**8.13** 54.8	**7.62** 51.7	**7.12** 48.7	**6.65** 45.7	**6.19** 42.7	**5.75** 39.8	**5.33** 37.0	**4.93** 34.3	**4.55** 31.7	**4.18** 29.1	230
14.3 87.5	**13.6** 84.5	**13.0** 81.5	**12.3** 78.4	**11.7** 75.3	**11.1** 72.2	**10.5** 69.0	**9.90** 65.8	**9.34** 62.6	**8.79** 59.5	**8.26** 56.3	**7.74** 53.2	**7.25** 50.1	**6.77** 47.0	**6.31** 44.0	235
17.9 104.	**17.2** 101.	**16.5** 98.1	**15.8** 95.3	**15.1** 92.4	**14.4** 89.4	**13.7** 86.4	**13.1** 83.3	**12.4** 80.2	**11.8** 77.0	**11.2** 73.8	**10.6** 70.6	**10.0** 67.4	**9.46** 64.2	**8.92** 61.0	240
21.8 118.	**21.0** 116.	**20.3** 113.	**19.5** 111.	**18.8** 108.	**18.0** 106.	**17.3** 103.	**16.6** 100.	**15.9** 97.2	**15.2** 94.3	**14.5** 91.3	**13.9** 88.2	**13.2** 85.1	**12.6** 81.9	**11.9** 78.7	245
25.9 131.	**25.1** 129.	**24.3** 127.	**23.5** 125.	**22.7** 123.	**21.9** 121.	**21.2** 118.	**20.4** 116.	**19.6** 113.	**18.9** 110.	**18.2** 108.	**17.4** 105.	**16.7** 102.	**16.0** 99.2	**15.3** 96.2	250
30.2 143.	**29.3** 141.	**28.5** 139.	**27.7** 137.	**26.8** 136.	**26.0** 134.	**25.2** 132.	**24.4** 130.	**23.6** 127.	**22.8** 125.	**22.1** 123.	**21.3** 120.	**20.5** 118.	**19.8** 115.	**19.0** 113.	
226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	A

N

A em Erl \ N	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255
135															
140															
145															
150															
155															
160															
165															
170															
175															
180															
185															
190	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02												
195	**0.03** 0.13	**0.03** 0.11	**0.02** 0.08	**0.02** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	**0.01** 0.02						
200	**0.10** 0.46	**0.08** 0.38	**0.07** 0.30	**0.06** 0.24	**0.05** 0.20	**0.04** 0.16	**0.03** 0.12	**0.02** 0.10	**0.02** 0.08	**0.02** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02	
205	**0.27** 1.39	**0.23** 1.16	**0.19** 0.96	**0.16** 0.79	**0.13** 0.65	**0.11** 0.53	**0.09** 0.43	**0.08** 0.35	**0.06** 0.28	**0.05** 0.23	**0.04** 0.18	**0.03** 0.14	**0.03** 0.11	**0.02** 0.09	**0.02** 0.07
210	**0.62** 3.60	**0.53** 3.06	**0.46** 2.60	**0.40** 2.19	**0.34** 1.84	**0.29** 1.54	**0.25** 1.29	**0.21** 1.07	**0.18** 0.88	**0.15** 0.73	**0.12** 0.60	**0.10** 0.49	**0.08** 0.40	**0.07** 0.32	**0.06** 0.26
215	**1.26** 8.02	**1.12** 7.00	**0.98** 6.09	**0.86** 5.27	**0.76** 4.54	**0.66** 3.90	**0.57** 3.33	**0.49** 2.84	**0.43** 2.40	**0.37** 2.03	**0.31** 1.70	**0.27** 1.43	**0.23** 1.19	**0.19** 0.99	**0.16** 0.82
220	**2.31** 15.6	**2.08** 13.9	**1.87** 12.4	**1.67** 11.0	**1.49** 9.71	**1.33** 8.54	**1.17** 7.48	**1.04** 6.52	**0.91** 5.66	**0.80** 4.90	**0.70** 4.21	**0.61** 3.61	**0.53** 3.09	**0.46** 2.62	**0.39** 2.22
225	**3.84** 26.7	**3.51** 24.4	**3.21** 22.2	**2.92** 20.1	**2.65** 18.2	**2.40** 16.4	**2.16** 14.7	**1.94** 13.1	**1.74** 11.6	**1.56** 10.3	**1.39** 9.08	**1.23** 7.97	**1.09** 6.97	**0.96** 6.07	**0.85** 5.26
230	**5.87** 41.1	**5.44** 38.2	**5.04** 35.5	**4.65** 32.8	**4.29** 30.2	**3.94** 27.8	**3.61** 25.4	**3.30** 23.1	**3.01** 21.0	**2.74** 19.0	**2.48** 17.2	**2.24** 15.4	**2.02** 13.8	**1.81** 12.3	**1.63** 10.9
235	**8.38** 57.8	**7.87** 54.6	**7.37** 51.5	**6.89** 48.4	**6.43** 45.4	**5.98** 42.4	**5.56** 39.5	**5.15** 36.7	**4.76** 33.9	**4.39** 31.3	**4.04** 28.8	**3.71** 26.4	**3.40** 24.1	**3.10** 21.9	**2.82** 19.9
240	**11.3** 75.5	**10.7** 72.3	**10.2** 69.0	**9.59** 65.8	**9.04** 62.5	**8.51** 59.3	**7.99** 56.1	**7.49** 52.9	**7.01** 49.8	**6.55** 46.7	**6.10** 43.7	**5.67** 40.7	**5.26** 37.9	**4.87** 35.1	**4.50** 32.4
245	**14.7** 93.2	**14.0** 90.0	**13.3** 86.9	**12.7** 83.7	**12.1** 80.5	**11.5** 77.2	**10.9** 73.9	**10.3** 70.6	**9.72** 67.3	**9.17** 64.1	**8.63** 60.8	**8.11** 57.5	**7.61** 54.3	**7.13** 51.1	**6.66** 48.0
250	**18.3** 110.	**17.6** 107.	**16.9** 104.	**16.2** 101.	**15.5** 98.1	**14.8** 95.0	**14.1** 91.9	**13.5** 88.7	**12.8** 85.5	**12.2** 82.2	**11.6** 78.9	**11.0** 75.6	**10.4** 72.2	**9.84** 68.9	**9.29** 65.6
A \ N	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

A em Erl \ N	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270
135															
140															
145															
150															
155															
160															
165															
170															
175															
180															
185															
190															
195															
200															
205	**0.01** 0.06	**0.01** 0.04	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02										
210	**0.05** 0.21	**0.04** 0.17	**0.03** 0.13	**0.03** 0.11	**0.02** 0.08	**0.02** 0.07	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02				
215	**0.14** 0.67	**0.11** 0.55	**0.09** 0.45	**0.08** 0.37	**0.06** 0.30	**0.05** 0.24	**0.04** 0.19	**0.04** 0.16	**0.03** 0.12	**0.02** 0.10	**0.02** 0.08	**0.02** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03
220	**0.34** 1.87	**0.29** 1.57	**0.25** 1.32	**0.21** 1.10	**0.18** 0.91	**0.15** 0.75	**0.12** 0.62	**0.10** 0.51	**0.09** 0.42	**0.07** 0.34	**0.06** 0.27	**0.05** 0.22	**0.04** 0.18	**0.03** 0.14	**0.03** 0.11
225	**0.74** 4.54	**0.65** 3.91	**0.56** 3.35	**0.49** 2.85	**0.42** 2.43	**0.36** 2.05	**0.31** 1.73	**0.27** 1.45	**0.23** 1.21	**0.19** 1.01	**0.16** 0.84	**0.14** 0.69	**0.11** 0.57	**0.10** 0.47	**0.08** 0.38
230	**1.45** 9.62	**1.29** 8.47	**1.15** 7.43	**1.01** 6.48	**0.89** 5.64	**0.78** 4.88	**0.69** 4.21	**0.60** 3.62	**0.52** 3.10	**0.45** 2.64	**0.39** 2.24	**0.33** 1.89	**0.29** 1.60	**0.24** 1.34	**0.21** 1.12
235	**2.56** 18.0	**2.32** 16.2	**2.10** 14.5	**1.89** 12.9	**1.69** 11.5	**1.51** 10.2	**1.35** 8.99	**1.20** 7.90	**1.06** 6.92	**0.94** 6.03	**0.83** 5.24	**0.73** 4.53	**0.63** 3.90	**0.55** 3.35	**0.48** 2.86
240	**4.15** 29.9	**3.81** 27.4	**3.49** 25.1	**3.19** 22.8	**2.91** 20.7	**2.65** 18.8	**2.40** 16.9	**2.17** 15.2	**1.96** 13.6	**1.76** 12.1	**1.58** 10.8	**1.41** 9.52	**1.26** 8.39	**1.12** 7.36	**0.99** 6.43
245	**6.22** 45.0	**5.79** 42.0	**5.37** 39.1	**4.98** 36.3	**4.60** 33.5	**4.25** 30.9	**3.91** 28.4	**3.59** 26.0	**3.28** 23.8	**3.00** 21.6	**2.73** 19.6	**2.48** 17.7	**2.25** 15.9	**2.03** 14.3	**1.83** 12.8
250	**8.75** 62.3	**8.24** 59.0	**7.73** 55.7	**7.25** 52.5	**6.78** 49.4	**6.33** 46.3	**5.90** 43.2	**5.48** 40.3	**5.09** 37.4	**4.71** 34.7	**4.35** 32.0	**4.01** 29.5	**3.68** 27.0	**3.38** 24.7	**3.09** 22.5
A \ N	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270

A em Erl	N 271	272	273	274	275	276	277	278	279	280	281	282	283	284	285
135															
140															
145															
150															
155															
160															
165															
170															
175															
180															
185															
190															
195															
200															
205															
210															
215	**0.01** 0.02														
220	**0.02** 0.09	**0.02** 0.07	**0.01** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02								
225	**0.07** 0.31	**0.05** 0.25	**0.05** 0.21	**0.04** 0.17	**0.03** 0.13	**0.02** 0.11	**0.02** 0.08	**0.02** 0.07	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02		
230	**0.18** 0.93	**0.15** 0.77	**0.13** 0.64	**0.11** 0.53	**0.09** 0.43	**0.07** 0.35	**0.06** 0.29	**0.05** 0.23	**0.04** 0.19	**0.03** 0.15	**0.03** 0.12	**0.02** 0.10	**0.02** 0.08	**0.02** 0.06	**0.01** 0.05
235	**0.42** 2.44	**0.36** 2.07	**0.31** 1.75	**0.26** 1.47	**0.23** 1.23	**0.19** 1.03	**0.16** 0.86	**0.14** 0.71	**0.12** 0.59	**0.10** 0.49	**0.08** 0.40	**0.07** 0.33	**0.06** 0.27	**0.05** 0.22	**0.04** 0.17
240	**0.87** 5.60	**0.77** 4.86	**0.67** 4.20	**0.59** 3.61	**0.51** 3.10	**0.44** 2.65	**0.38** 2.25	**0.33** 1.91	**0.28** 1.61	**0.24** 1.36	**0.21** 1.14	**0.18** 0.95	**0.15** 0.79	**0.13** 0.66	**0.11** 0.54
245	**1.64** 11.3	**1.47** 10.1	**1.31** 8.88	**1.17** 7.82	**1.04** 6.85	**0.92** 5.98	**0.81** 5.20	**0.71** 4.51	**0.62** 3.89	**0.54** 3.34	**0.47** 2.86	**0.41** 2.45	**0.35** 2.08	**0.31** 1.76	**0.26** 1.49
250	**2.82** 20.4	**2.56** 18.5	**2.32** 16.7	**2.10** 15.0	**1.90** 13.4	**1.71** 11.9	**1.53** 10.6	**1.37** 9.40	**1.22** 8.29	**1.09** 7.28	**0.96** 6.37	**0.85** 5.55	**0.75** 4.82	**0.66** 4.18	**0.58** 3.60
A	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285

N

N 286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	A em Erl
															135
															140
															145
															150
															155
															160
															165
															170
															175
															180
															185
															190
															195
															200
															205
															210
															215
															220
															225
0.01 0.04	**0.01** 0.03	**0.01** 0.02													230
0.03 0.14	**0.03** 0.11	**0.02** 0.09	**0.02** 0.07	**0.01** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02							235
0.09 0.45	**0.07** 0.37	**0.06** 0.30	**0.05** 0.24	**0.04** 0.20	**0.04** 0.16	**0.03** 0.13	**0.02** 0.10	**0.02** 0.08	**0.02** 0.07	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.03	**0.01** 0.02	240
0.22 1.25	**0.19** 1.05	**0.16** 0.88	**0.14** 0.73	**0.12** 0.60	**0.10** 0.50	**0.08** 0.41	**0.07** 0.34	**0.06** 0.28	**0.05** 0.23	**0.04** 0.18	**0.03** 0.15	**0.03** 0.12	**0.02** 0.10	**0.02** 0.08	245
0.50 3.09	**0.44** 2.65	**0.38** 2.26	**0.33** 1.92	**0.28** 1.62	**0.24** 1.37	**0.21** 1.15	**0.18** 0.97	**0.15** 0.81	**0.13** 0.67	**0.11** 0.56	**0.09** 0.46	**0.08** 0.38	**0.06** 0.31	**0.05** 0.25	250
286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	A

N

A em Erl	N 301	302	303	304	305	306	307	308	309	310	311	312	313	314	315
135															
140															
145															
150															
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210															
215															
220															
225															
230															
235															
240															
245	**0.01** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02										
250	**0.04** 0.21	**0.04** 0.17	**0.03** 0.14	**0.02** 0.11	**0.02** 0.09	**0.02** 0.07	**0.01** 0.06	**0.01** 0.05	**0.01** 0.04	**0.01** 0.03	**0.01** 0.02				
A	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315

N

N 316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	A em Erl
															135
															140
															145
															150
															155
															160
															165
															170
															175
															180
															185
															190
															195
															200
															205
															210
															215
															220
															225
															230
															235
															240
															245
															250
316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	A

N

5 Tabelas para sistemas de espera com um número infinito de fontes de tráfego e acessibilidade plena

5.1 Generalidades

Os dados de dimensionamento, relacionados a seguir, se referem a sistemas de espera própria (ver Sec. 1.3). Supõe-se que o tráfego oferecido seja produzido por um número infinito de fontes de tráfego, sendo esse conduzido por um número infinito de fontes de tráfego e por um número infinito de troncos de entrada; isso corresponde, no modelo de tráfego teórico, à suposição de que a probabilidade de chegar uma nova chamada é igual para todos os instantes, ou que os intervalos de tempo entre as chegadas das chamadas consecutivas estão distribuídos de forma exponencial.

Os gráficos das Secs. 5.4 e 5.5 mostram a relação entre a carga oferecida A, o número de troncos de saída N e os seguintes valores característicos

t_w Tempo médio de espera das chamadas demoradas

$P(>t)$ Probabilidade de excesso de demora ($P > t$); probabilidade de um certo tempo de espera t ser excedido. Porcentagem das chamadas oferecidas que precisam esperar mais do que o tempo de duração t, pelo início do atendimento.

$P(>0)$ Probabilidade de espera; porcentagem das chamadas oferecidas que não podem ser atendidas imediatamente. É o caso limite da probabilidade de excesso de demora $P(>t)$ para $t = 0$.

Os valores para o tempo médio de espera t_w assim como a probabilidade de excesso de demora $P(>t)$ para $t > 0$ tem no tempo médio t_m seu fator de cálculo, sempre que todos os intervalos de tempo forem dados como múltiplos de t_m. Como os gráficos podem ser utilizados independentemente do valor numérico do tempo médio de ocupação, os mesmos, expostos a seguir, contém sempre as quantidades t_w/t_m e t/t_m em vez de t_w e t.

Os gráficos 1 a 13 da Sec. 5.4 se baseiam na suposição de que os tempos de ocupação são distribuídos de forma exponencial; isso quer dizer que o tráfego oferecido é um tráfego puramente aleatório, supondo os intervalos de tempo entre chegadas distribuídos de forma exponencial (ver Sec. 1.5.2), semelhante ao que foi tomado como base para os sistemas de perda, Caps. 2 e 3.

Os gráficos 14 até 30 na Sec. 5.5 se baseiam na suposição de tempos de ocupação constantes.

Os gráficos para a probabilidade de excesso de demora $P(>t)$ para $N = 1$ até 10 troncos de saída com tempos de ocupação, distribuídos de forma exponencial (gráficos 3 a 13) e com tempos de ocupação constantes (gráficos 16 a 27), se baseiam na hipótese de que as chamadas "demoradas" são processadas na ordem de sua chegada. Para grupos com somente um tronco de saída ($N = 1$) e tempos de ocupação constante, existem adicionalmente diagramas para o processamento das chamadas demoradas em seqüência aleatória (gráficos 28 a 30).

Os valores para t_w/t_m e $P(>0)$ não dependem da seqüência do processamento. Esses valores numéricos podem ser obtidos imediatamente para $N = 1$ até 40 troncos de saída, nos gráficos 1 e 2 para tempos de ocupação distribuídos exponencialmente, assim como nos gráficos 14 e 15 para tempos de ocupação constantes. Na aplicação prática desses dados para o dimensionamento dos grupos de troncos de saída deve-se observar que, como regra geral, somente podem ser tomados como base tempos de ocupação constantes, quando o tempo de operação dos equipamentos não é influenciado pelo assinante e é (aproximadamente) o mesmo para todas as chamadas. Esse é o caso, por exemplo, de muitos equipamentos comuns que servem para o controle de tráfego nas centrais telefônicas. Os tempos de ocupação distribuídos de forma exponencial serão então sempre tomados como base em todos os casos em que o tempo das chamadas for determinado principalmente pelo comportamento dos assinantes, ou seja, no dimensionamento do número de equipamentos de comutação existentes na via telefônica. Os dados para os tempos de ocupação distribuídos de forma exponencial podem também ser empregados quando os tempos de ocupação não são nem constantes, nem distribuídos de forma exponencial, porque os resultados obtidos sempre terão bastante margem de segurança.

Os gráficos se baseiam em investigações de A. K. Erlang [3], C. D. Crommelin [6], [7] e P. J. Burke [4]. O resumo de fórmulas da Sec. 5.2 contém algumas das fórmulas empregadas na elaboração dos gráficos, as quais permitem o cálculo mais exato de determinados valores, se necessário. Para os tempos de ocupação distribuídos de forma exponencial, será indicado um resumo com os valores indicados nas tabelas de tráfego excedente (Sec. 4.4) que permite calcular também facilmente os valores de $P(>t)$ para os pontos que ficam fora da faixa dos diagramas.

A utilização dos gráficos e fórmulas será explicada na Sec. 5.3, por meio de exemplos numéricos.

5.2 Resumo de fórmulas

Os símbolos utilizados são explicados no Cap. 6. Para o tempo médio $\bar{t}_w$ das chamadas oferecidas, é válida a fórmula:

$$\bar{t}_w = t_w \cdot P(>0). \tag{5.1}$$

5.2.1. *Fórmulas para o caso de tempos de ocupação distribuídos de forma exponencial* (segundo dados na Sec. 5.4)

São válidas para $A < N$ as fórmulas estabelecidas por A. K. Erlang [3], [13].

Para o gráfico 1:

$$\frac{t_w}{t_m} = \frac{1}{N-A}. \tag{5.2}$$

Para o gráfico 2:

$$P(>0) = \frac{\dfrac{N}{N-A}\dfrac{A^N}{N!}}{\displaystyle\sum_{i=0}^{N-1}\frac{A^i}{i!} + \frac{N}{N-A}\frac{A^N}{N!}} = E_{2,N}(A), \tag{5.3}$$

(fórmula de Erlang de segunda espécie)

Para $N = 1$ vale $P(>0) = A$. (5.3a)

No caso do processamento das chamadas na seqüência de chegada, tem-se:

para os gráficos 3 até 13:

$$P(>t) = P(>0)\,e^{-\frac{t}{t_m}(N-A)} = P(>0)\,e^{-\frac{t}{t_w}} \tag{5.4}$$

Para as demais relações:

tomando como referência a fórmula de Erlang de primeira espécie (fórmula de perda), idêntica à indicada por (2.6):

$$E_{1,N}(A) = \frac{\dfrac{A^N}{N!}}{\displaystyle\sum_{i=0}^{N}\frac{A^i}{i!}}, \tag{5.5}$$

e a fórmula (5.3), antes indicada, podemos incluir a fórmula (5.6), que é:

$$E_{2,N}(A) = \frac{E_{1,N}(A)}{1-\dfrac{A}{N}[1-E_{1,N}(A)]}. \tag{5.6}$$

Usando-se as tabelas de tráfego excedente da Sec. 4.5 e substituindo os valores dados de A e N, podemos determinar:

$$E_{1,N}(A) = \frac{R}{A}, \tag{5.7}$$

e assim, o valor $P(>0)$ pode ser derivado simplesmente de (5.6) e (5.7), ou seja

$$P(>0) = \frac{RN}{A(N-A+R)}. \tag{5.8}$$

Para $\frac{t}{t_m}$ pré-estabelecido, $P(>t)$ resulta usando a fórmula (5.4).

5.2.2. *Fórmulas para o caso de tempos de ocupação constantes*

(para os dados veja a Sec. 5.5)

As investigações teóricas fundamentais [13] se devem sobretudo a A. K. Erlang [3] e C. D. Crommelin [6], [7]. Os resultados dessas investigações não podem ser representados geralmente em fórmulas de fácil uso. Por essa razão, serão indicadas aqui somente as fórmulas válidas para $N = 1$ troncos de saída.

Para o gráfico 14, e $N = 1$, com $A < N$, teremos

$$\frac{t_w}{t_m} = \frac{1}{2(1-A)}. \tag{5.9}$$

Para o gráfico 15 e $N = 1$, teremos $P(>0) = A$, ou seja, o mesmo resultado da fórmula (5.3a) para tempos de ocupação distribuídos de forma exponencial (5.10).

Ademais, deve-se observar que a probabilidade de espera $P(>0)$ para números de troncos de saída $N > 1$ pode ser obtida aproximadamente dos valores referidos a tempos de ocupação distribuídos de forma exponencial. Os valores para $P(>0)$ se situam, em caso de tempos de ocupações constantes, somente um pouco abaixo dos valores correspondentes para tempos de ocupação distribuídos de forma exponencial, como foi mostrado pela comparação dos gráficos 2 e 15.

No caso de atendimento das chamadas na seqüência de chegada

São usados os gráficos 16 até 18 para $N = 1$ troncos de saída com $A < N$.

Designando-se por v a parte inteira de $\frac{t}{t_m}$, ou seja, $\frac{t}{t_m} = v + \tau$ com $\tau < 1$, então teremos para

$$v \leqq \frac{t}{t_m} < v + 1 \quad \text{com} \quad v = 0, 1, 2, \ldots$$

e

$$P(> t) = P[> (v + \tau) t_m] =$$

$$= 1 - (1 - A) \sum_{i=0}^{v} \frac{\left[-A\left(\frac{t}{t_m} - i\right)\right]^i}{i!} e^{A\left(\frac{t}{t_m} - i\right)}. \qquad (5.11)$$

Atendimento de chamadas de maneira aleatória

A teoria que determinou o traçado dos gráficos 28 e 30 para $N = 1$ troncos de saída, foi estabelecida por P. J. Burke [4], [13]. Nesse tipo de processamento de chamadas, a chamada imediata, quando vaga uma saída, é escolhida aleatoriamente.

Designando-se ainda com v a parte inteira de $\frac{t}{t_m}$, ou seja $\frac{t}{t_m} = v + \tau$ com $\tau < 1$, então para

$$v \leqq \frac{t}{t_m} < v + 1 \quad \text{e} \quad v = 0, 1, 2, \ldots$$

O cálculo da probabilidade resulta de $P(> t)$ para $A < N$:

$$P(> t) = P[> (v + \tau) t_m] =$$

$$= A \left\{1 - \sum_{i=1}^{\infty} P_{i-1} \left[\left(\frac{t}{t_m} - v\right) Q_v(i) + \sum_{j=0}^{v-1} Q_j(i)\right]\right\}. \qquad (5.12)$$

Nessa fórmula temos:

P_{i-1} probabilidade de que se encontram $(i-1)$ chamadas no sistema de espera;

$Q_j(i)$ probabilidade condicional de que antes de uma chamada de espera considerada se processam exatamente (j) outras chamadas, se a mesma for uma das (i) chamadas de espera, quando há uma saída livre.

Para a avaliação dessa fórmula, Burke [4] obteve várias fórmulas de recorrência.

5.3 Exemplos numéricos

Exemplo 1

Dados: Grupo de troncos com $N = 8$ troncos de saída
Acessibilidade plena
Carga oferecida $A = 4{,}5$ Erl
Os tempos de ocupação dos troncos de saída são distribuídos exponencialmente com o tempo médio de ocupação de $t_m = 120$ s
O processamento das chamadas oferecidas é feita na seqüência de suas chegadas.

A determinar: a) A probabilidade de espera
b) O tempo médio t_w das chamadas de espera
c) O tempo médio $\bar{t}_w$ das chamadas oferecidas
d) A probabilidade de excesso de demora $P(> 60\text{ s})$, de que as chamadas oferecidas precisam esperar mais do que $t = 60$ s para seu processamento.

a) A probabilidade de espera $P(> 0)$ pode ser calculada por uma das três maneiras:

1. Do gráfico 2 e
2. Do gráfico 11 com $\frac{t}{t_m} = 0$:
$P(> 0) = 0{,}1$,
isto é, 10 % das chamadas oferecidas precisam aguardar.
3. Por um valor mais preciso, obtido recorrendo-se às tabelas de tráfego excedente calculadas segundo a fórmula (5.8). Toma-se das tabelas de tráfego excedente do parágrafo 4.5 para $A = 4{,}5$ Erl e $N = 8$, o valor de $R = 0{,}217$ Erl e efetua-se o cálculo usando a fórmula (5.8):

$$P(> 0) = \frac{RN}{A(N + R - A)} = \frac{0{,}217 \cdot 8}{4{,}5(8 + 0{,}217 - 4{,}5)}.$$

$$P(> 0) = 0{,}104$$

b) O tempo médio de espera t_w das chamadas de espera pode ser calculado de duas maneiras:

1. Lido imediatamente do gráfico 1:

$$\frac{t_w}{t_m} = 0{,}29,$$

portanto com $t_m = 120$ s.
O valor $t_w = 34{,}8$ s significa que as chamadas de espera precisam esperar em média cerca de 34,8 s até o seu atendimento ou processamento.

2. Um resultado mais preciso é obtido, ao aplicarmos a fórmula (5.2):

$$\frac{t_w}{t_m} = \frac{1}{N-A} = \frac{1}{8-4{,}5} \approx 0{,}286$$

e com $t_m = 120$ s
$t_w = 34{,}3$ s.

c) O tempo médio $\bar{t}_w$ das chamadas de espera é calculado, através da fórmula (5.1), com auxílio dos resultados a) e b):

$$\bar{t}_w = t_w \cdot P(>0) = 34{,}3 \cdot 0{,}104 \text{ s}$$

Isto é, o tempo médio de espera abrange: $\bar{t}_w = 3{,}57$ s.

d) A probabilidade de excesso de demora $P(>60\text{ s})$, de que as chamadas oferecidas precisam esperar mais do que 60 s pelo seu processamento, é calculada como segue. Para o cálculo de $P(>60\text{ s})$ serão indicadas duas soluções:

1. Com $\frac{t}{t_m} = \frac{60}{120} = 0{,}5$ podendo-se aplicar diretamente o diagrama 11:

$$P(>t) = P(>60\text{ s}) = 0{,}018$$

isto é, 1,8% das chamadas oferecidas deve esperar mais do que 60 s.

2. Obtemos o mesmo valor com a fórmula (5.4) e o resultado de a):

$$\begin{aligned} P(>t) &= P(>0)\, e^{-\frac{t}{t_m}(N-A)} \\ &= 0{,}104 \cdot e^{-0{,}5(8-4{,}5)} \\ &= 0{,}104 \cdot e^{-1{,}75} \\ P(>t) &= 0{,}0181. \end{aligned}$$

Exemplo 2

Dados: Grupo com $N = 1$ tronco de saída
Carga oferecida $A = 0{,}3$ Erl
Tempos de ocupação das saídas constantes igual a $t_m = 30$ ms
Processamento das chamadas de espera em seqüência aleatória.

A determinar: a) A probabilidade de espera
b) O tempo médio t_w das chamadas de espera
c) A probabilidade de excesso de demora $P(>60\text{ ms})$ que as chamadas demoradas precisam aguardar mais do que $t = 60$ ms por seu processamento.

a) Segundo a fórmula (5.10) quando $N = 1$ saída, temos para a probabilidade de espera $P(>0) = A$, o valor $P(>0) = 0{,}3$, isto é, 30% das chamadas oferecidas precisam esperar. O mesmo valor pode ser lido imediatamente do diagrama 15 e dos diagramas 16 e 28 para $\frac{t}{t_m} = 0$.

b) Podemos retirar imediatamente do gráfico 14, $\frac{t_w}{t_m} = 0{,}71$ e obtemos

$$t_w = 0{,}71 \cdot 30 \text{ ms} = 21{,}3 \text{ ms}$$

isto é, as chamadas demoradas precisam esperar em média 21,3 ms por seus processamentos.
No cálculo, a fórmula (5.9) nos dá

$$\frac{t_w}{t_m} = \frac{1}{2(1-A)} = \frac{1}{2(1-0{,}3)} \approx 0{,}714$$

e com $t_m = 30$ ms, $t_w = 21{,}4$ ms.

c) Com $\frac{t}{t_m} = \frac{60}{30} = 2$ o gráfico 29 nos dá imediatamente $P(>t) = P(>60\text{ ms}) = 0{,}011$, isto é, 1,1% das chamadas oferecidas precisam esperar mais do que 60 ms.

Exemplo 3

Dados: Grupo com $N = 20$ troncos de saída
Acessibilidade plena
Carga oferecida $A = 18$ Erl
Tempos de ocupação dos troncos de saída são constantes $t_m = 30$ s.

A determinar: a) A probabilidade de espera
b) O tempo médio de espera t_w das chamadas demoradas
c) O tempo médio de espera $\bar{t}_w$ das chamadas oferecidas.

a) Obtemos diretamente do diagrama 15 a probabilidade de espera $P(>0) = 0{,}52$, isto é, 52% das chamadas oferecidas precisam esperar.

b) Do gráfico 14 lemos diretamente $\frac{t_w}{t_m} = 0{,}28$ e com isso

$$t_w = 0{,}28 \cdot 30 \text{ s} = 8{,}4 \text{ s}$$

isto é, o tempo médio de espera das chamadas demoradas é de cerca de 8,4 s.

c) Com auxílio dos resultados de a) e b), obtemos com a fórmula (5.1):

$$\bar{t}_w = t_w \cdot P(>0) = 8{,}4 \cdot 0{,}52 \text{ s},$$

isto é, o tempo médio de espera das chamadas oferecidas é $\bar{t}_w = 4{,}4$ s.

Exemplo 4

Dados: Grupo com $N = 8$ troncos de saída
Acessibilidade plena
Carga oferecida $A = 6{,}4$ Erl
Os tempos de ocupação dos troncos de saída são constantes: $t_m = 20$ s
Processamento das chamadas na seqüência de sua chegada.

A determinar: Porcentagem das chamadas que precisam esperar mais do que $t = 30$ s, por seu processamento, isto é, calcular a probabilidade de excessos de demora $P(> 30\text{ s})$.

Sendo $\frac{t}{t_m} = \frac{30}{20} = 1{,}5$, podemos ler diretamente do gráfico 25:

$$P(> t) = P(> 30\text{ s}) = 0{,}0033$$

isto é, 0,33 % das chamadas oferecidas precisa esperar mais do que 30 s.

Exemplo 5

Dados: Carga oferecida $A = 6$ Erl
Acessibilidade plena
Os tempos de ocupação das saídas são distribuídos de forma exponencial com o tempo médio de ocupação de $t_m = 30$ s
Processamento das chamadas na seqüência de sua chegada.

A determinar: Número de troncos de saída, nas quais no máximo 1 % de todas chamadas oferecidas precisa esperar mais do que 60 s pelo seu processamento.

Obtemos do gráfico 10, para $A = 6$ Erl, $\frac{t}{t_m} = \frac{60}{30} = 2{,}0$ e $N = 7$ troncos de saída, a probabilidade de excesso de demora $P(> t)$, o valor $P(> t) = P(> 60\text{ s}) = 0{,}082$ e do gráfico 11 para $N = 8$, o valor $P(> t) = P(> 60\text{ s}) = 0{,}0065$.
Em virtude da exigência de $P(> 60\text{ s}) \leqq 0{,}01$, precisam ser previstos $N = 8$ troncos de saída.

Exemplo 6

Dados: $N = 1$ tronco de saída
Os tempos de ocupação das saídas são constantes: $t_m = 50$ ms
Processamento das chamadas de espera em seqüência aleatória.

A determinar: Carga oferecida admissível A, na qual 1 % das chamadas oferecidas precisa esperar mais do que $t = 25; 50; 100; 200$ ms até o início do processamento.

Com $\frac{t}{t_m} = 0{,}5; 1; 2; 4$ se podem ler nos gráficos 28, 29 e 30, para a probabilidade $P(> t) = 0{,}01$, as correspondentes cargas oferecidas admissíveis:

$A = 0{,}02$ Erl para $\frac{t}{t_m} = 0{,}5$;

$A = 0{,}14$ Erl para $\frac{t}{t_m} = 1$;

$A = 0{,}28$ Erl para $\frac{t}{t_m} = 2$;

$A = 0{,}47$ Erl para $\frac{t}{t_m} = 4$.

5.4 Gráficos para sistemas de espera

Tempos de ocupação distribuídos de forma exponencial
Número infinito de fontes de tráfego
Acessibilidade plena

A	Carga oferecida em Erl
N	Número de troncos de saída
t_m	Tempo médio de ocupação dos troncos de saída
t_w	Tempo médio das chamadas de espera (gráfico 1)
$P(> 0)$	Probabilidade de espera: porcentagem de ocupações oferecidas que não são processadas imediatamente; caso limite de $P(> t)$ para $t = 0$ (ver gráfico 2)
$P(> t)$	Probabilidade de excesso de demora: porcentagem de chamadas oferecidas que precisam esperar mais do que o tempo t pelo início do atendimento. (Para $N = 1 \ldots 10$ e com chamadas atendidas na seqüência de chegada, veja gráficos 16 . . . 27)

Tanto t quanto t_w devem ser especificados na mesma unidade de tempo de t_m.

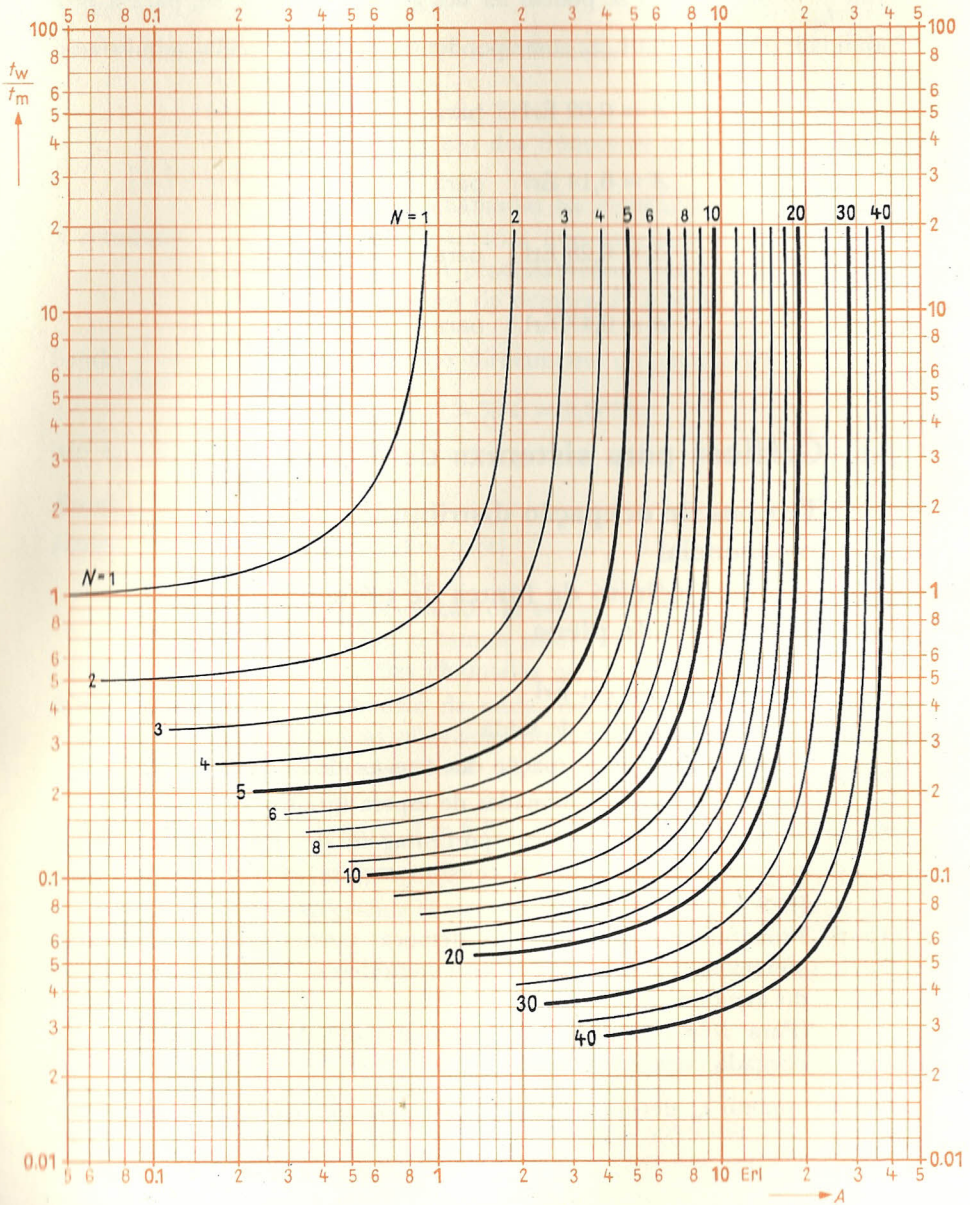


Gráfico 1 $\frac{t_w}{t_m} = \frac{1}{N-A}$ (5.2) Ver p. 314

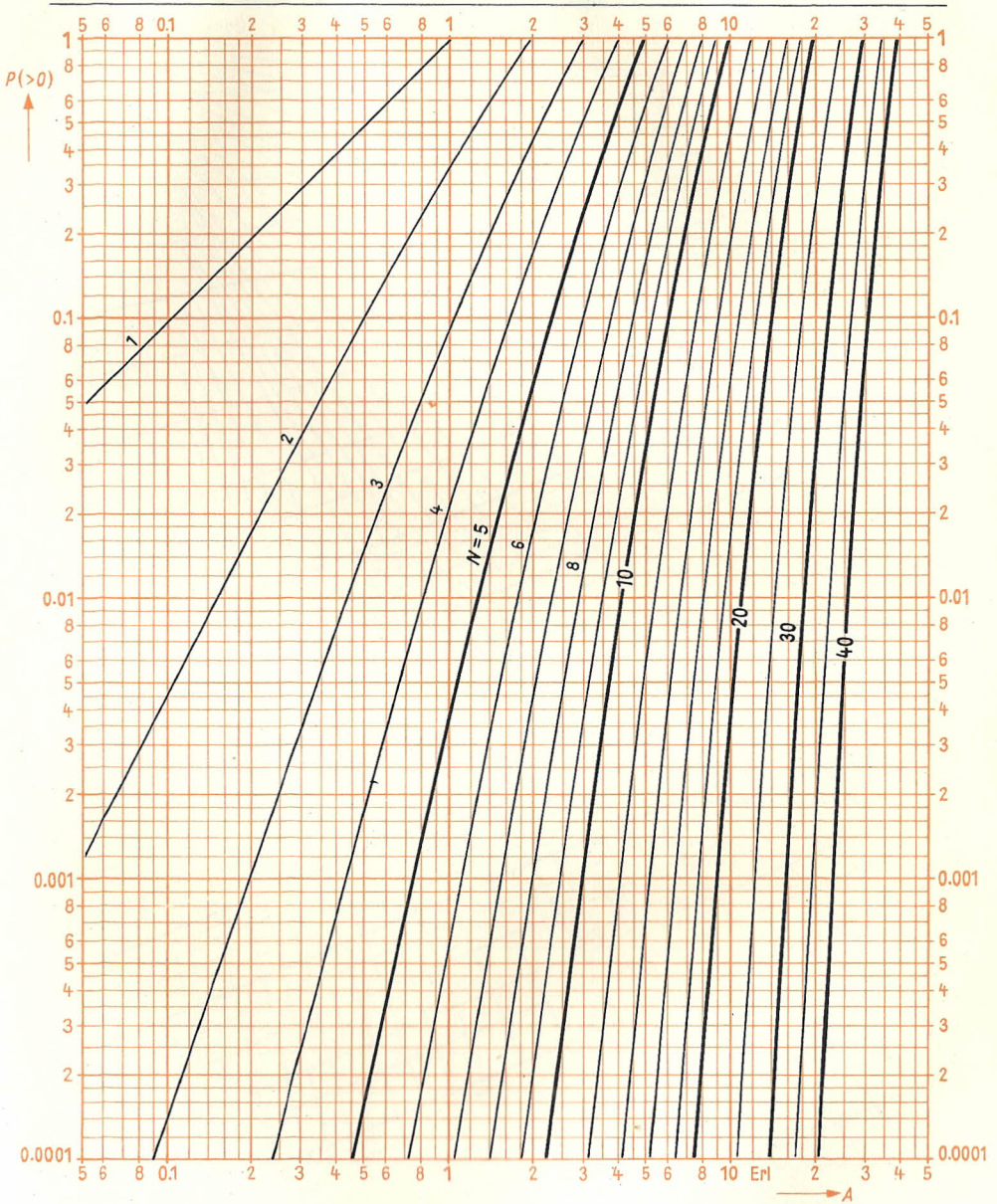


Gráfico 2 $P(>0) = \frac{R\,N}{A\,(N-A+R)}$ (5.8) Ver p. 315

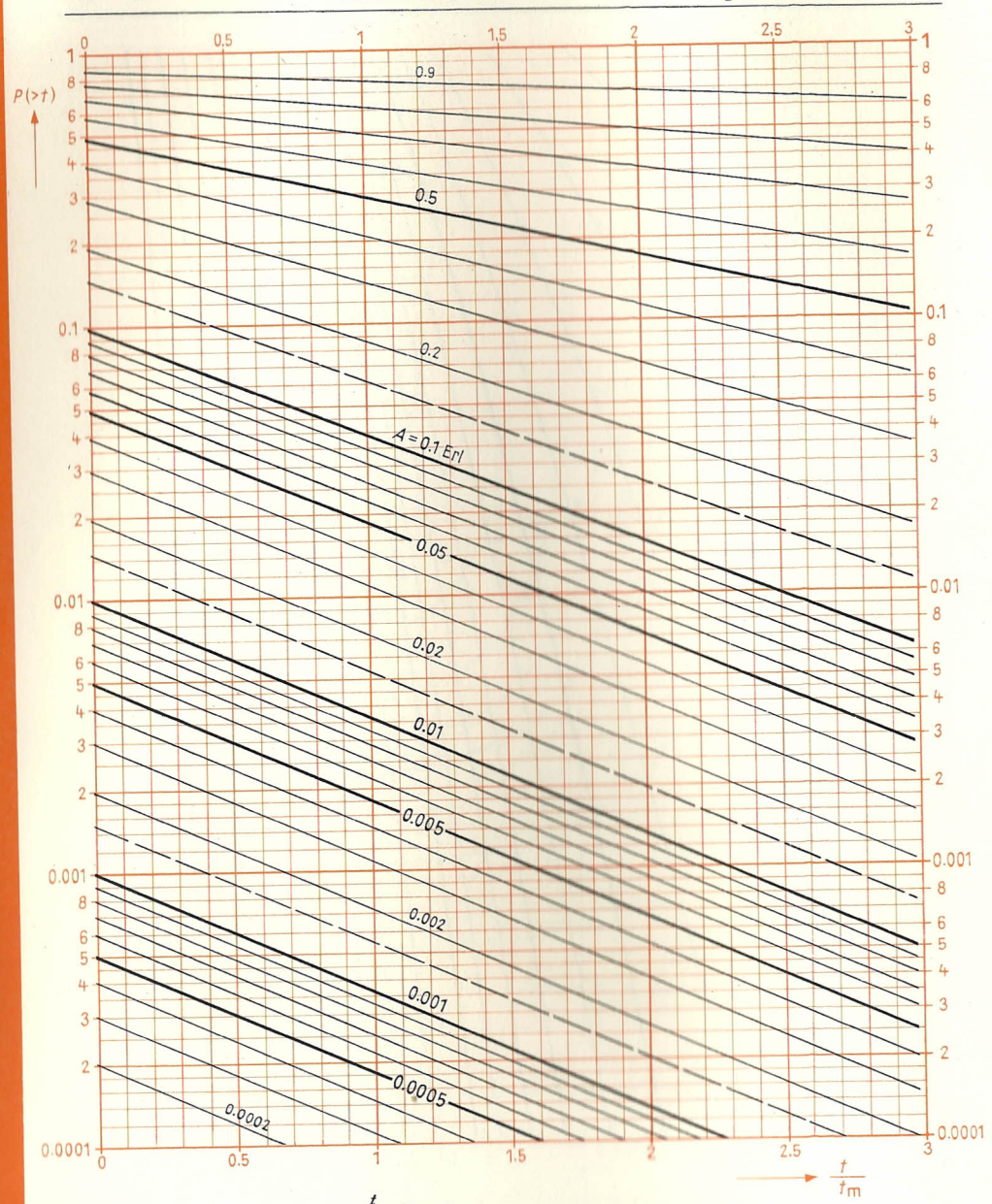


Gráfico 3 $P(>t) = Ae^{-\frac{t}{t_m}(1-A)}$ (5.3a), (5.4) Ver p. 314

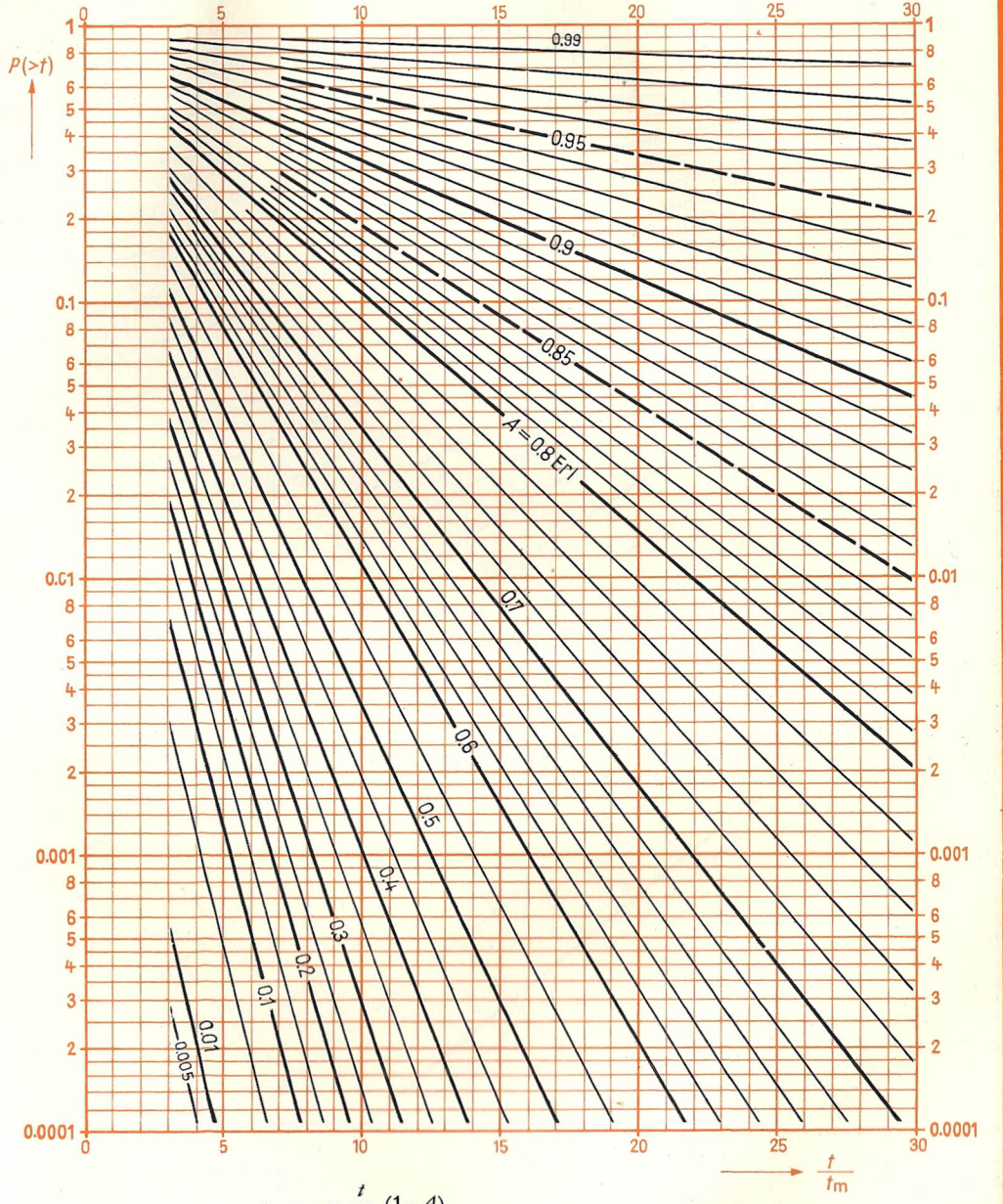


Gráfico 4 $P(>t) = Ae^{-\frac{t}{t_m}(1-A)}$ (5.3a), (5.4) Ver p. 314

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

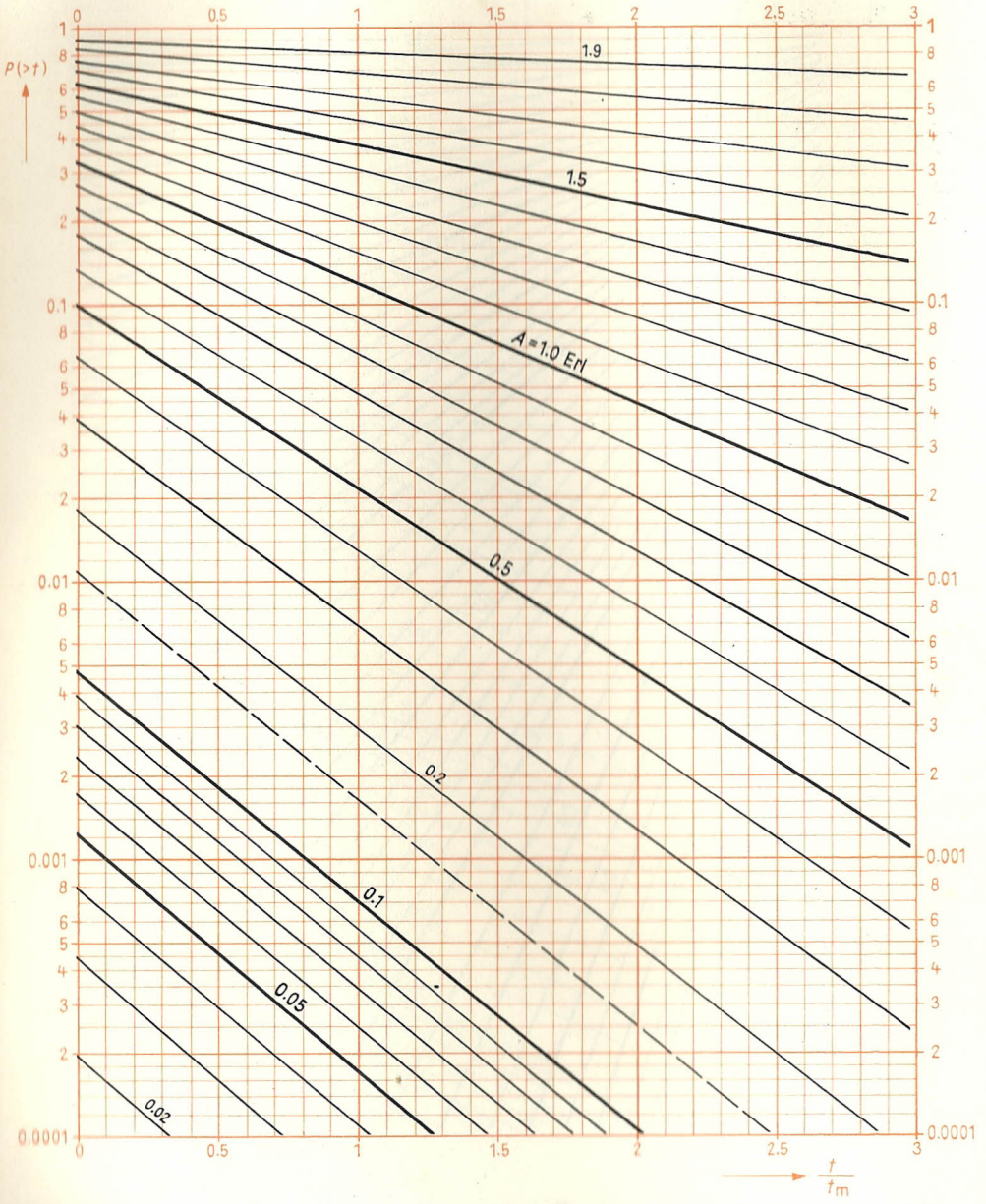


Gráfico 5

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

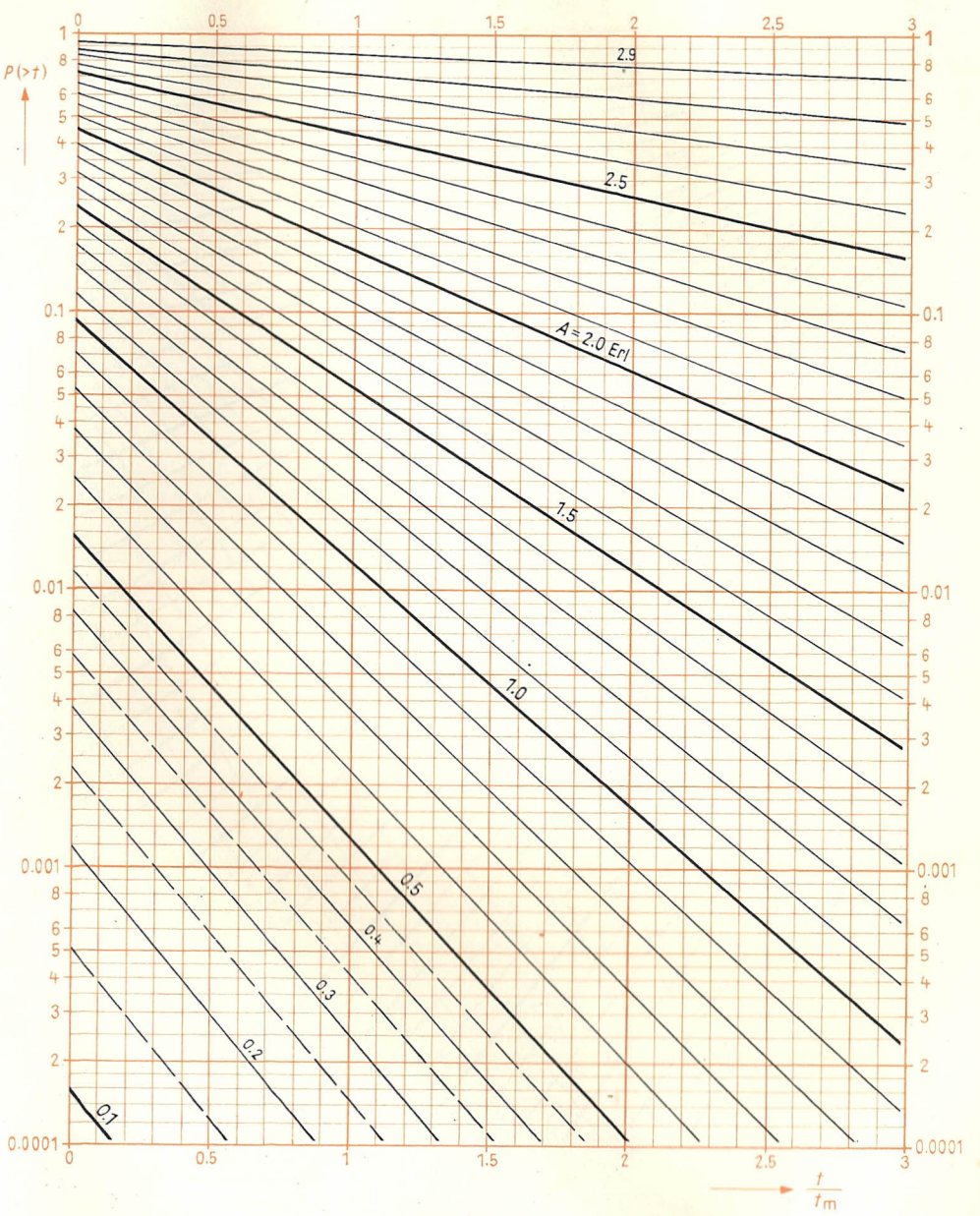


Gráfico 6

P(>t) N=4

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

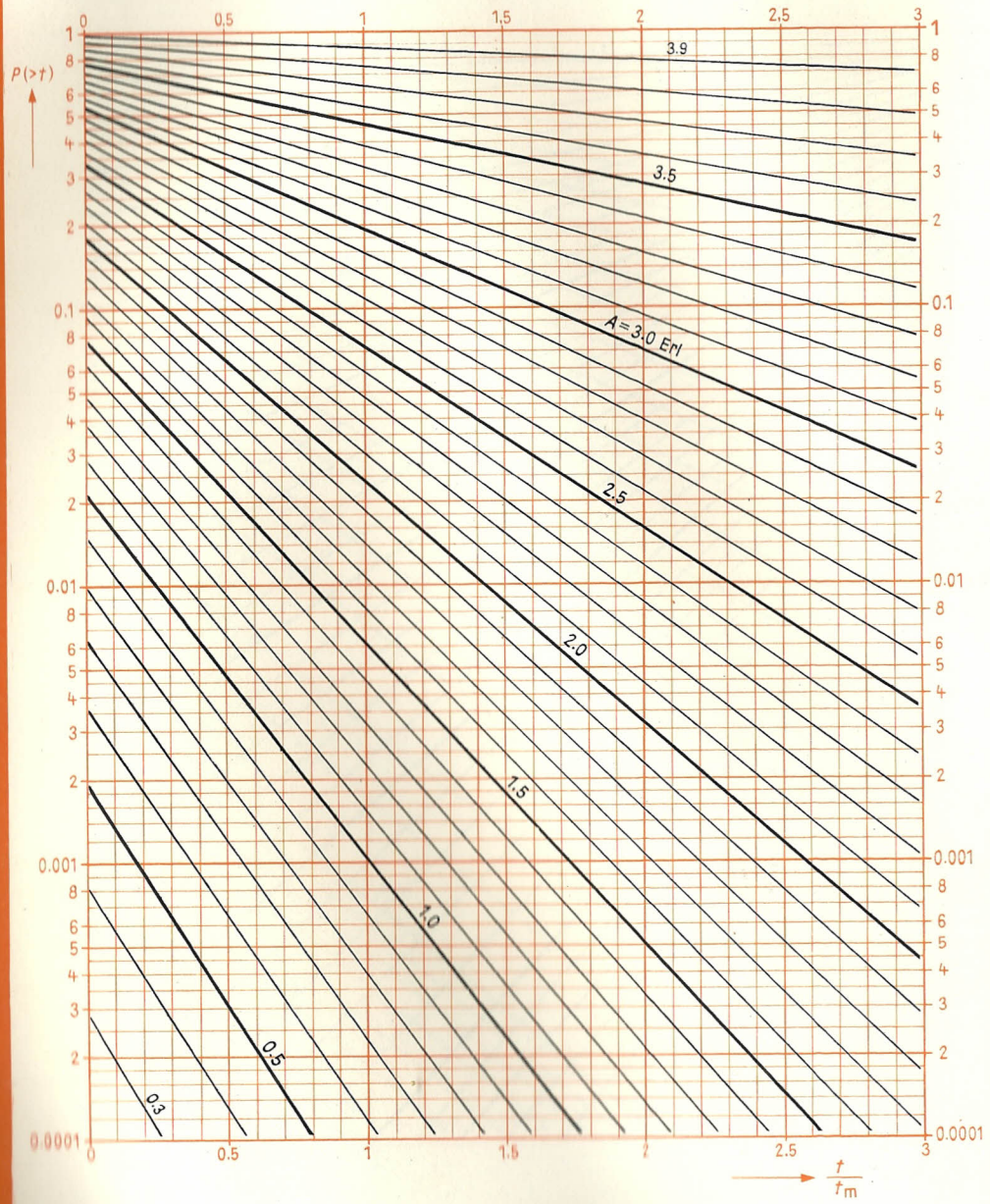


Gráfico 7

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

N=5 P(>t)

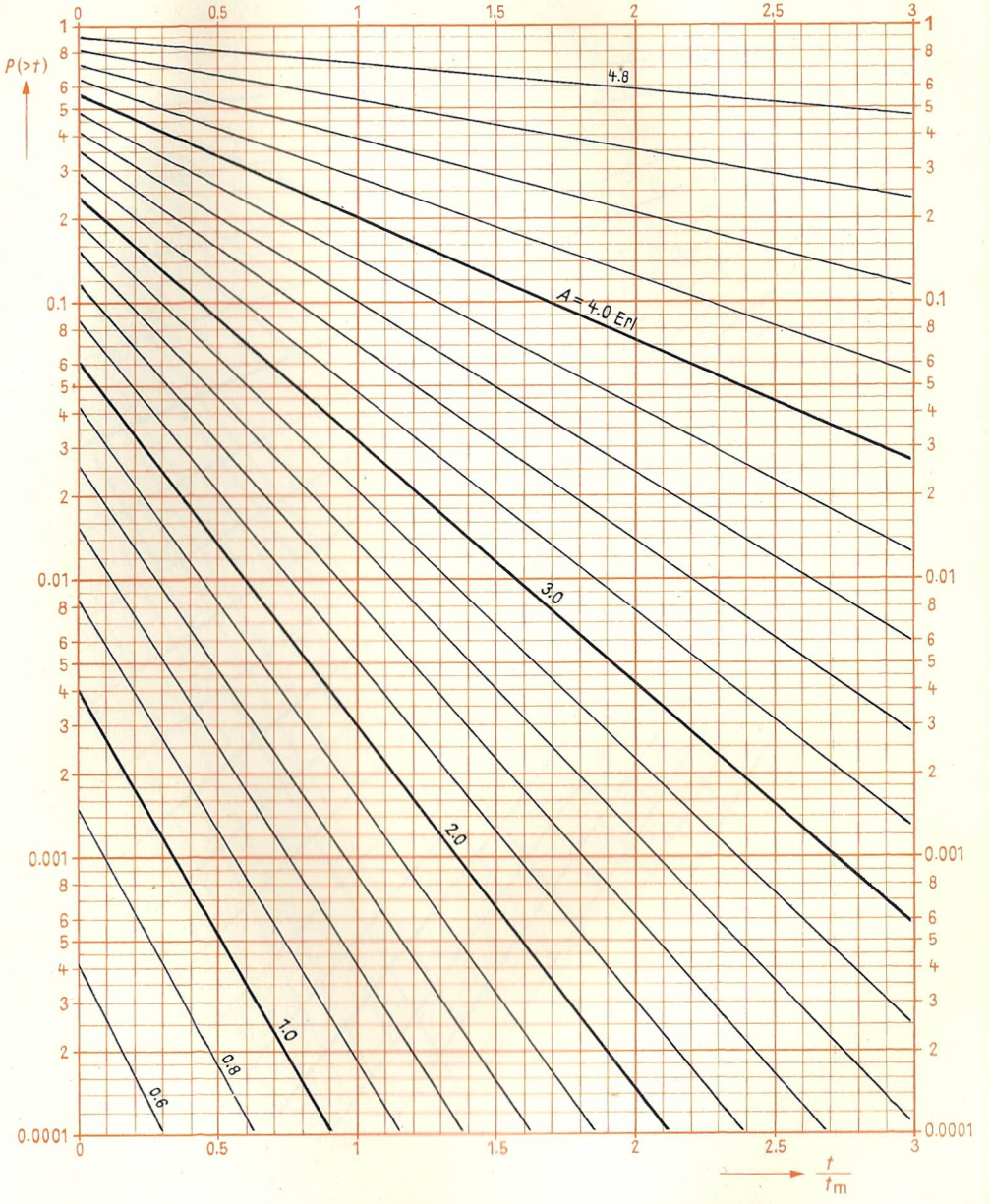


Gráfico 8

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

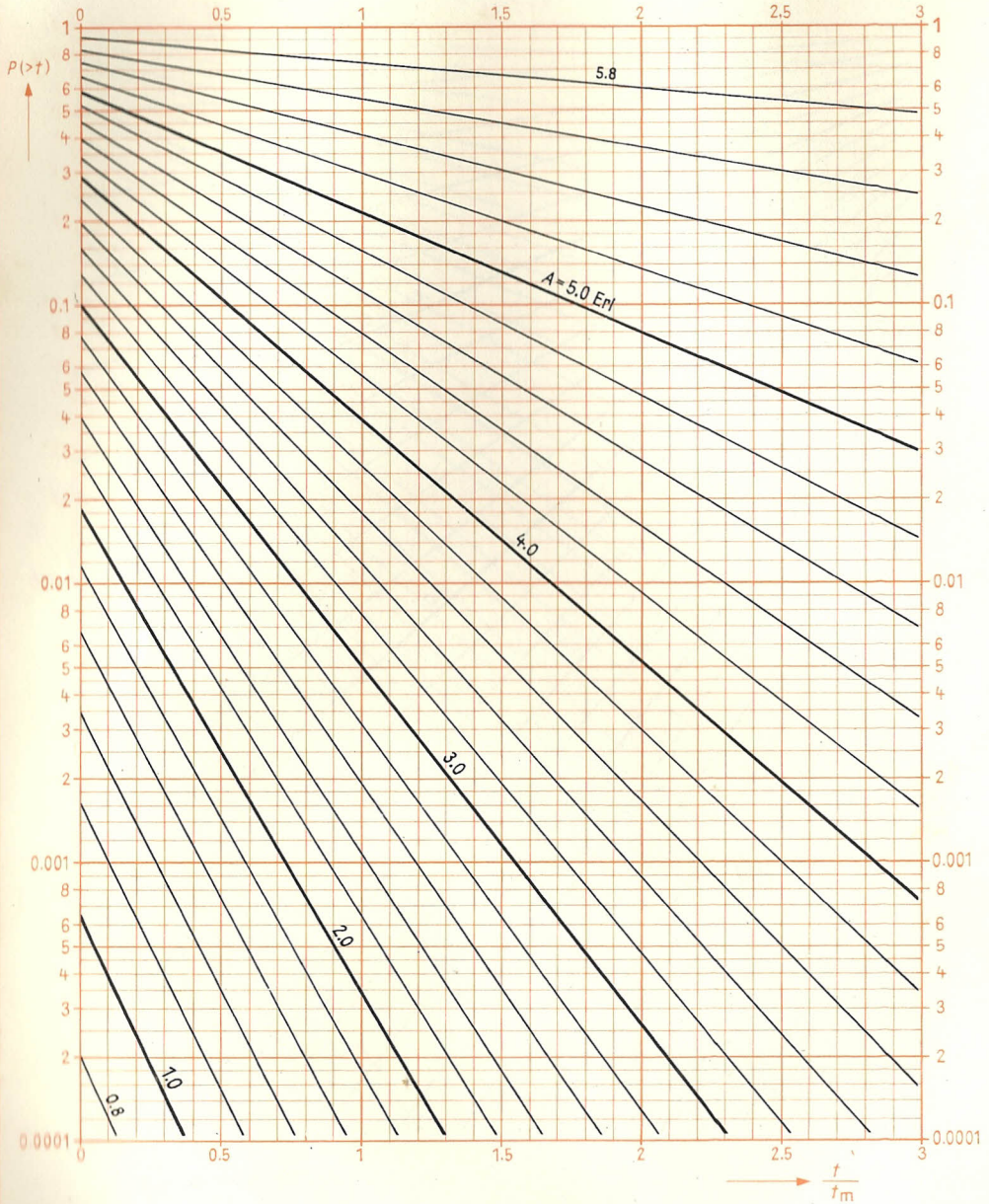


Gráfico 9

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

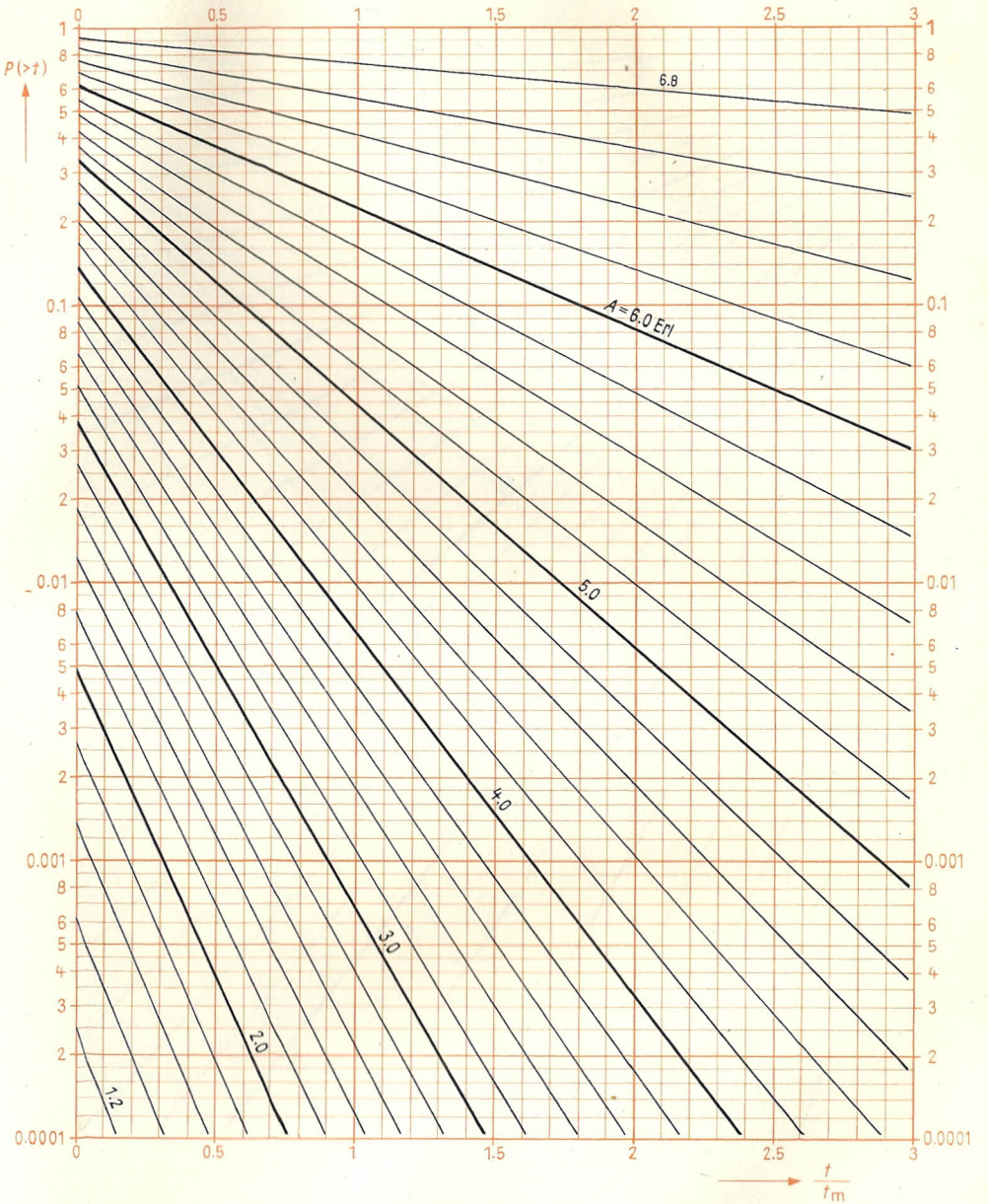


Gráfico 10

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

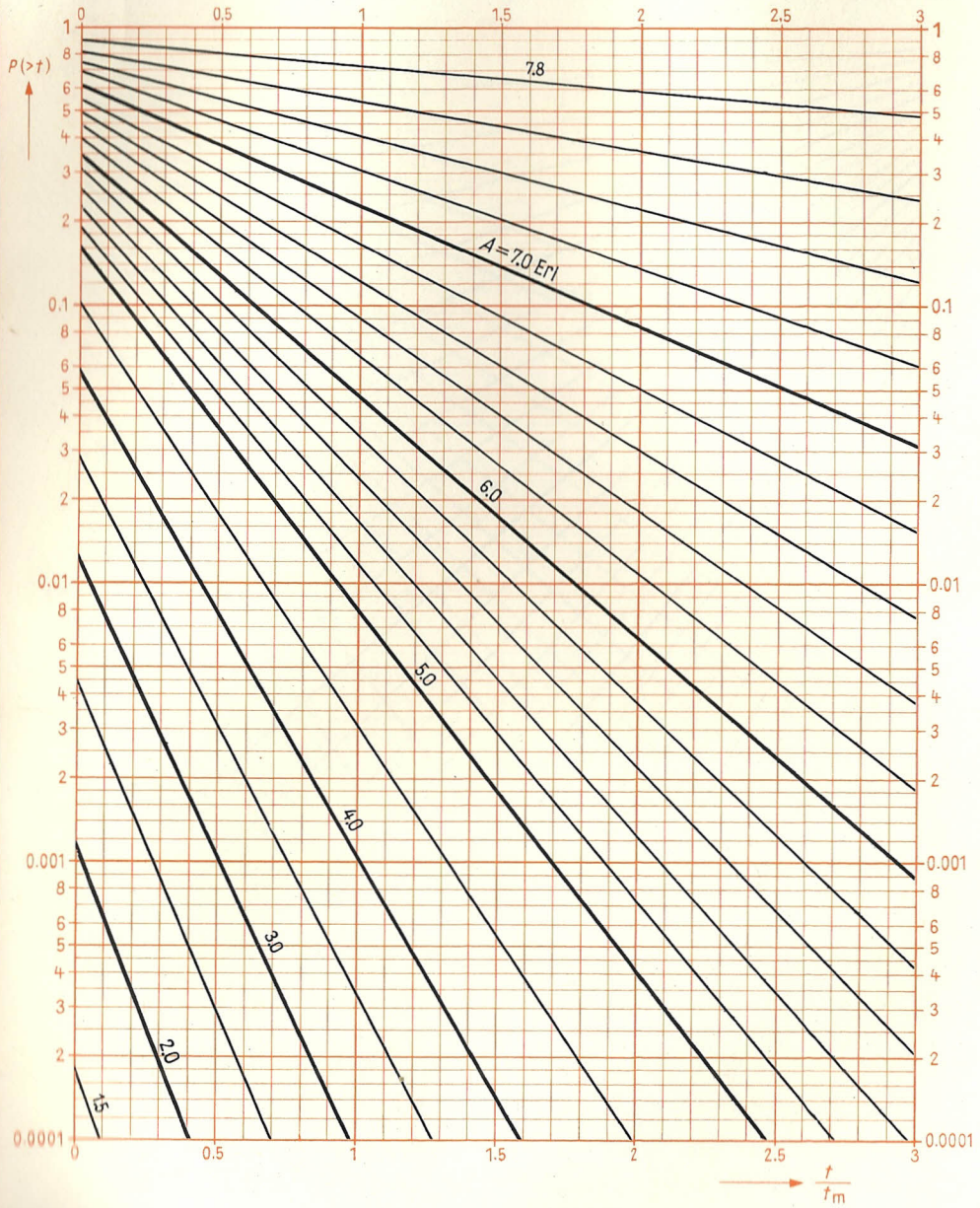


Gráfico 11

Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

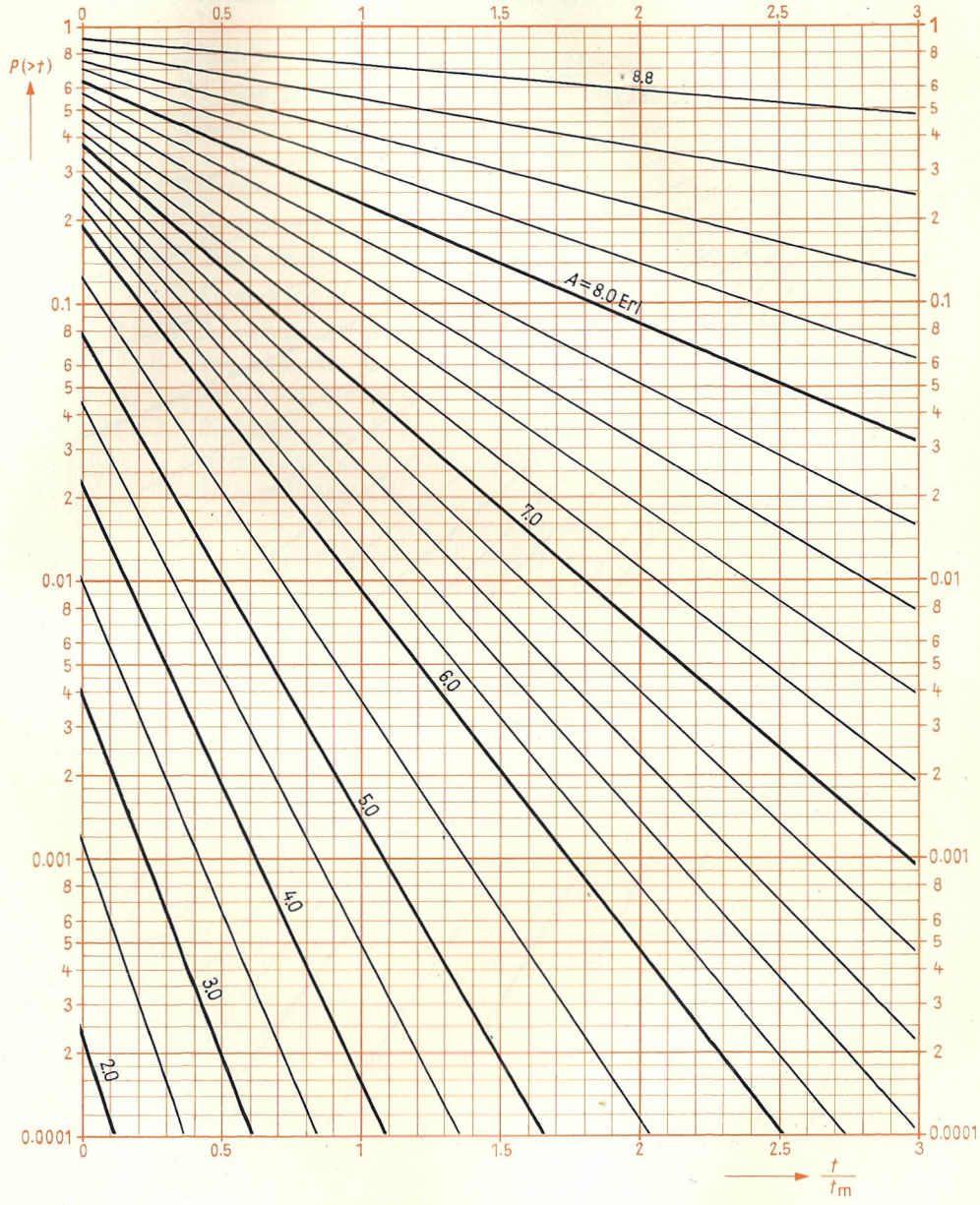


Gráfico 12

P(>t) N=10 Distribuição exponencial dos tempos de ocupação
Atendimento das chamadas na seqüência da chegada

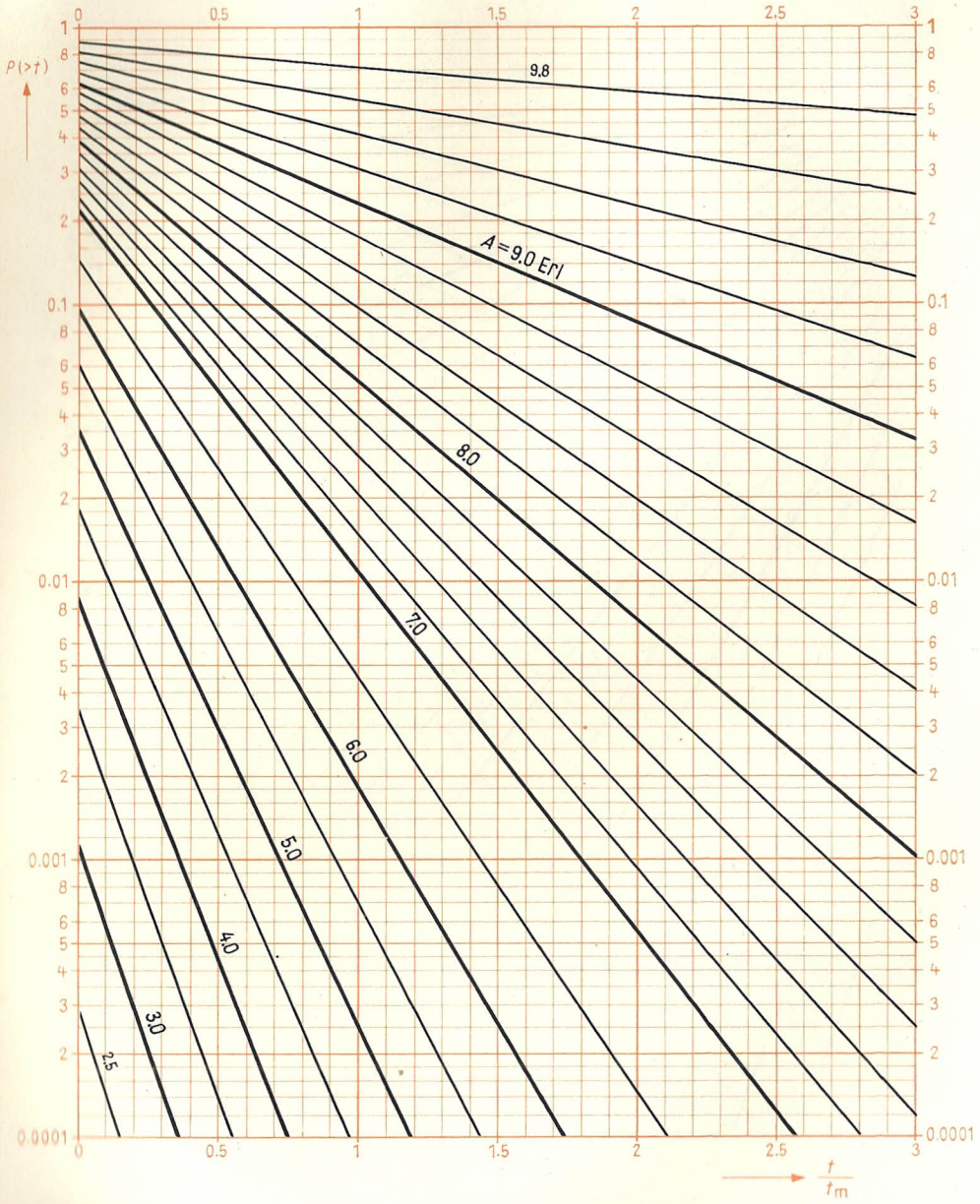


Gráfico 13

5.5 Gráficos para sistemas de espera

Tempos de ocupação constantes
Número infinito de fontes de tráfego
Acessibilidade plena

A	Carga oferecida em Erl
N	Número de troncos de saída
t_m	Tempo médio de ocupação dos troncos de saída
t_w	Tempo médio das chamadas de espera (ver gráfico 14)
$P(>0)$	Probabilidade de espera. Porcentagem das ocupações oferecidas que não são processadas imediatamente. Caso limite de $P(>t)$ para $t = 0$ (ver gráfico 15)
$P(>t)$	Probabilidade de excesso de demora. Porcentagem das chamadas oferecidas, que precisam esperar mais do que o tempo t pelo início do atendimento. (Para $N = 1 \ldots 10$ e com chamadas atendidas na seqüência de chegada, ver gráficos 16 . . . 27). (Para $N = 1$, e atendimento em seqüência aleatória, ver gráficos 28 . . . 30).

Tanto t quanto t_w devem ser especificados na mesma unidade de tempo de t_m.

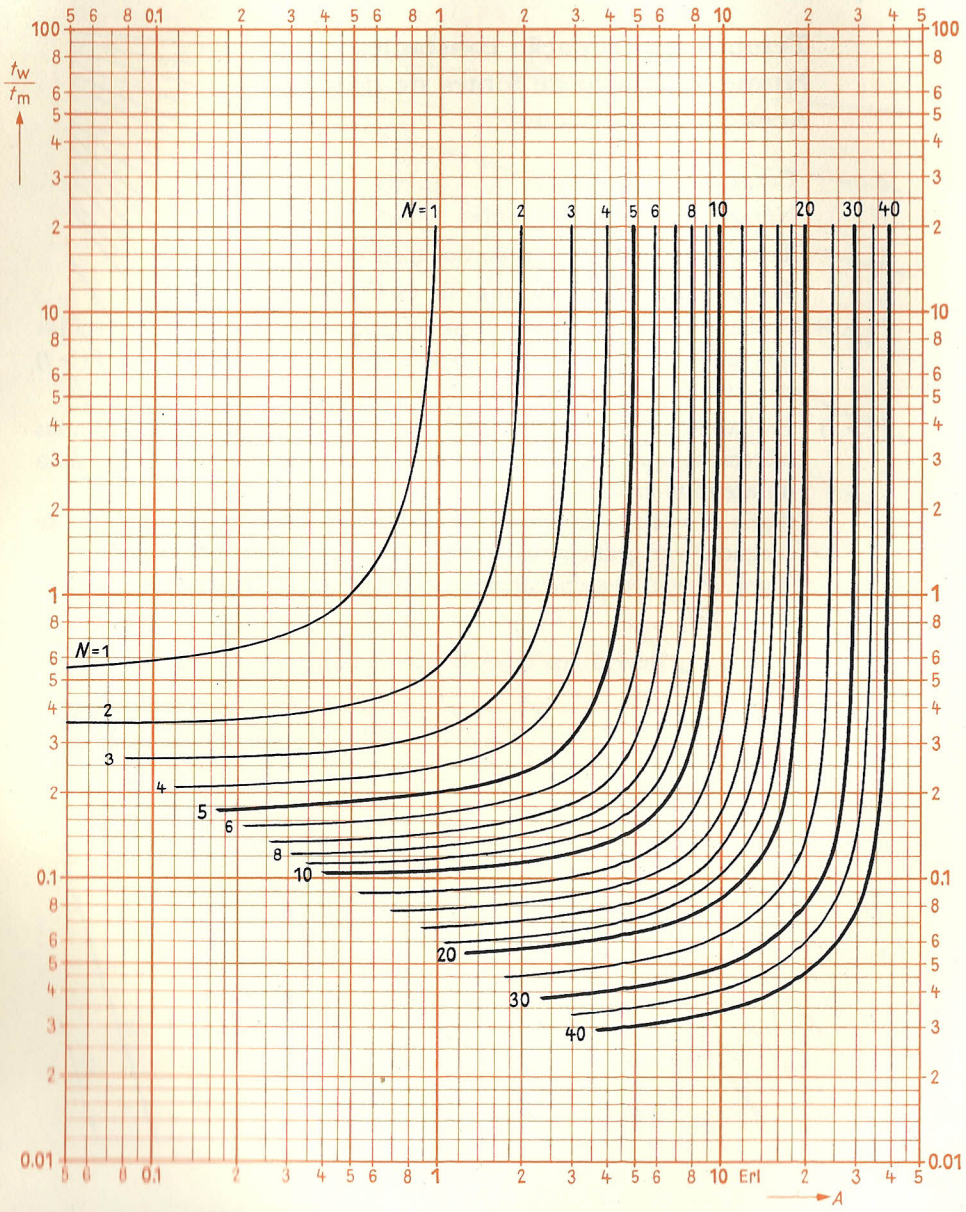


Gráfico 14 Para $N=1$: $\frac{t_w}{t_m} = \frac{1}{2(1-A)}$ (5.9) Ver p. 315

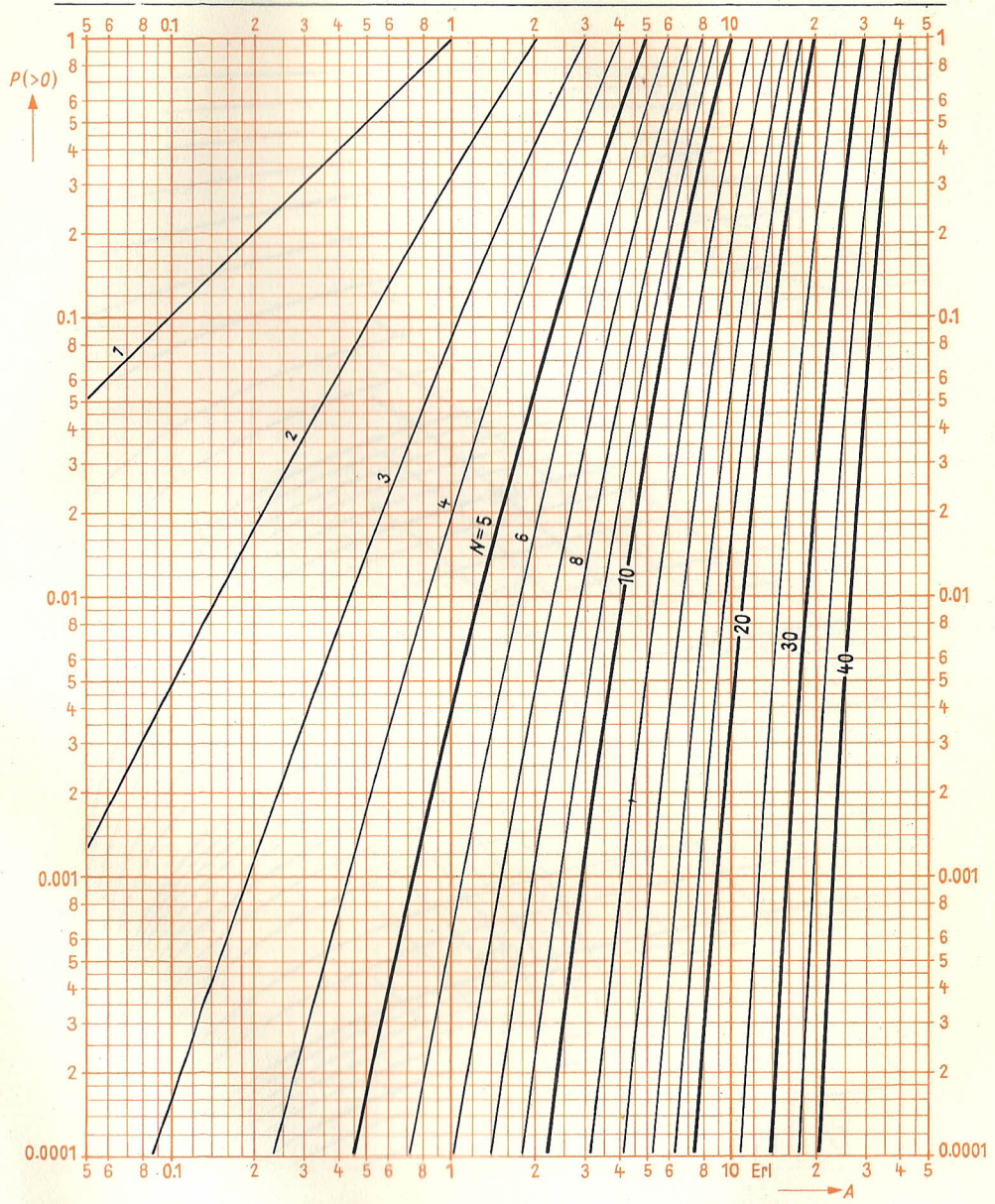


Gráfico 15 $P(>0) \approx \frac{R\,N}{A\,(N-A+R)}$ Ver Sec. 5.2.2 e fórmula (5.8)

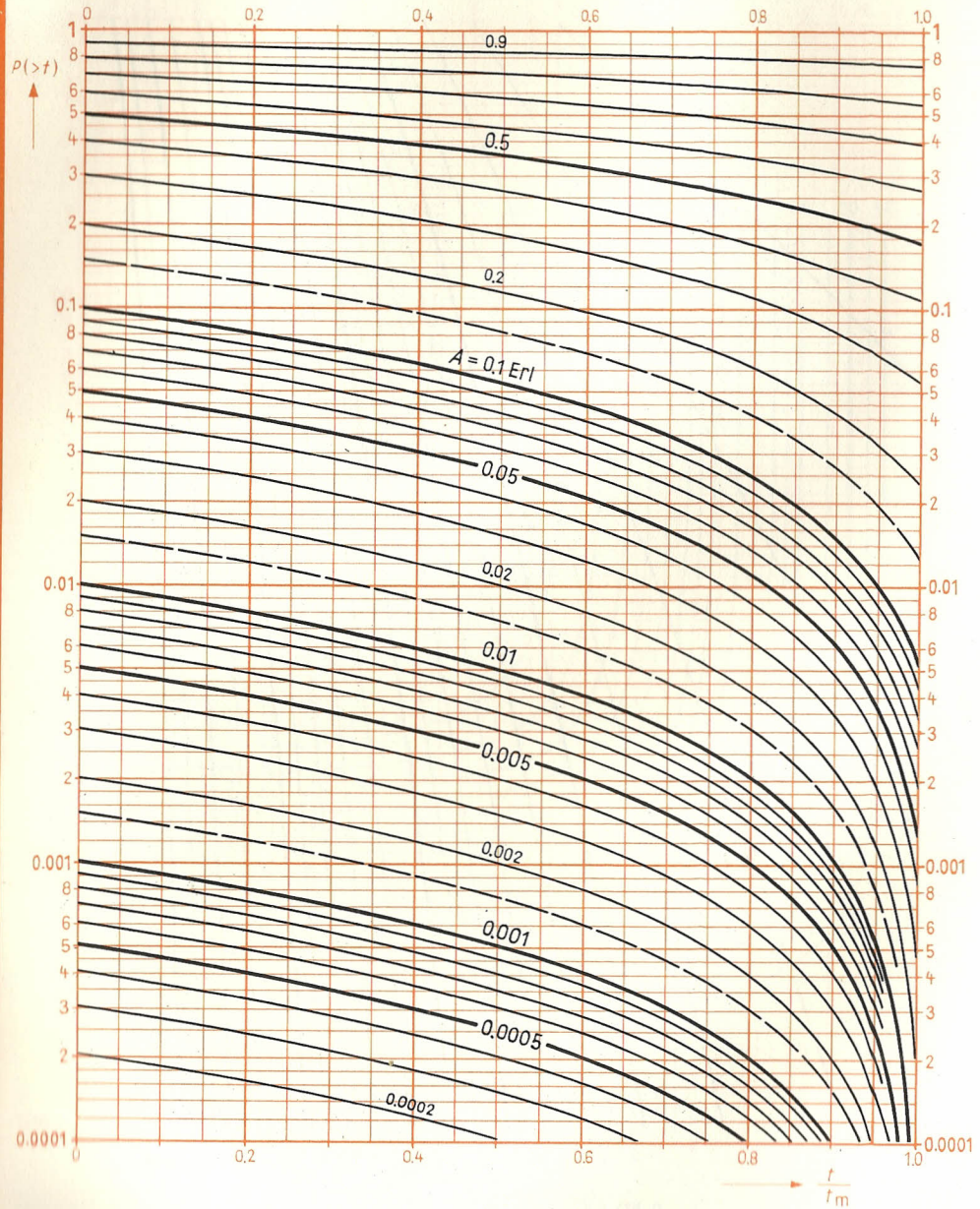


Gráfico 16

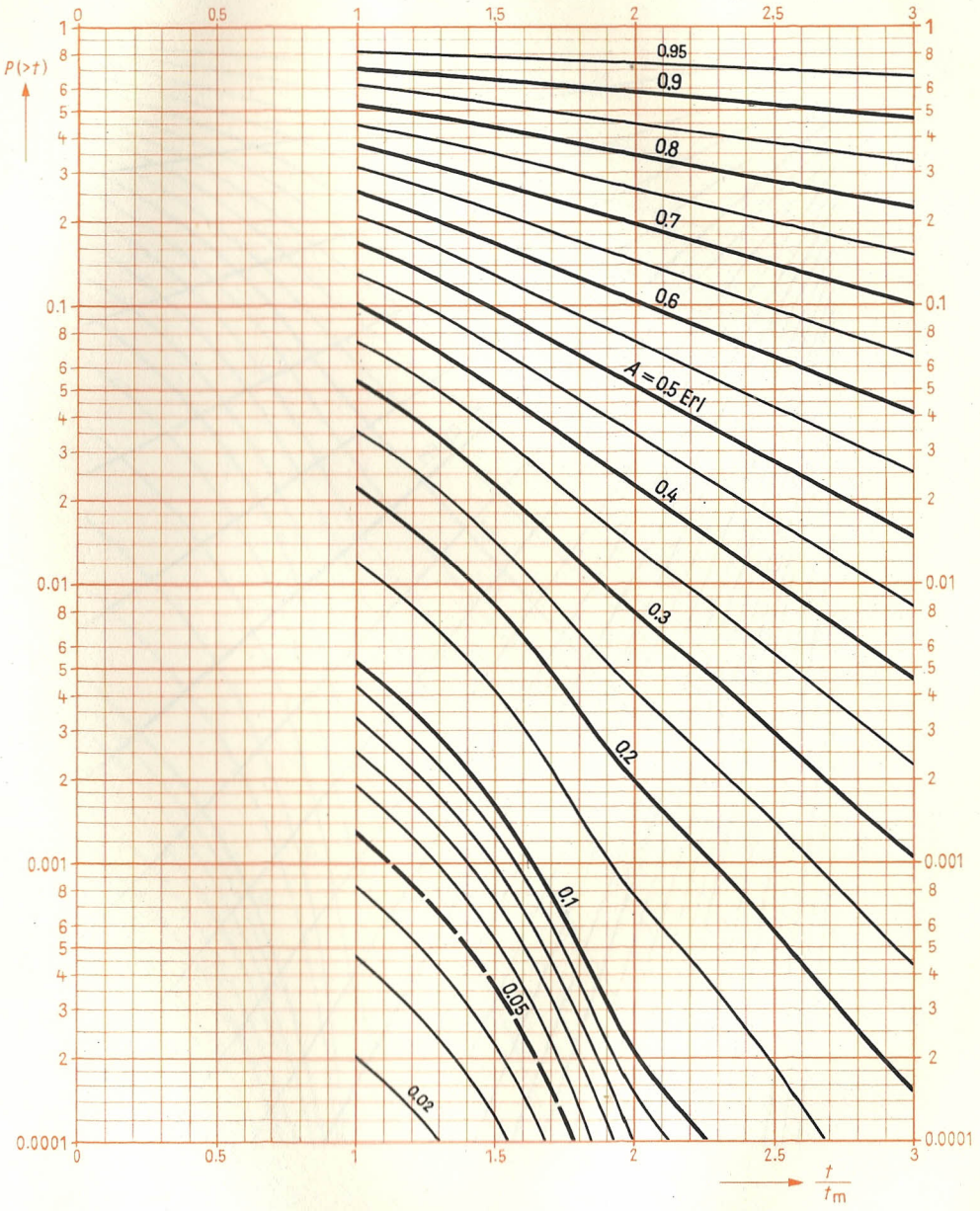


Gráfico 17

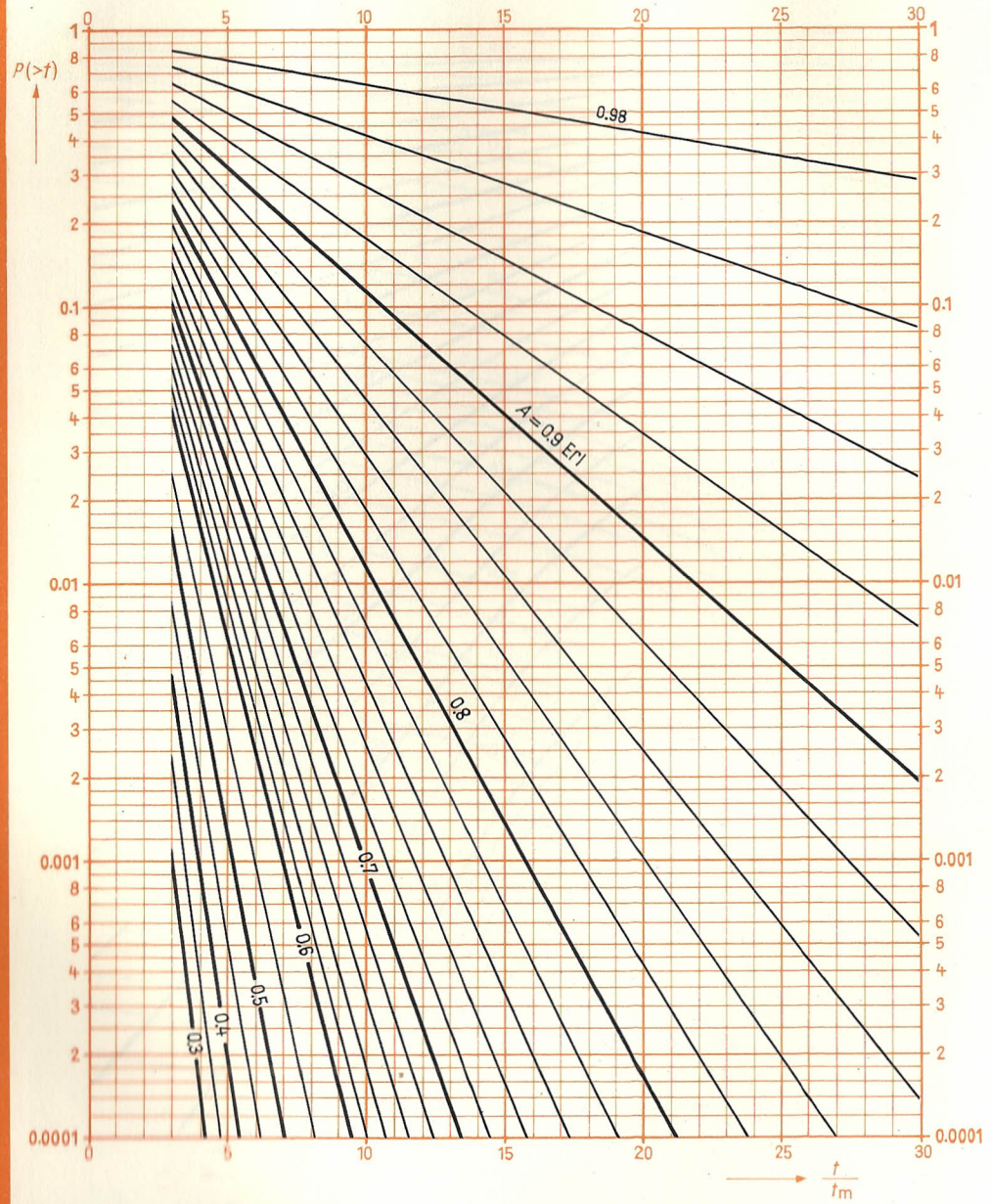


Gráfico 18

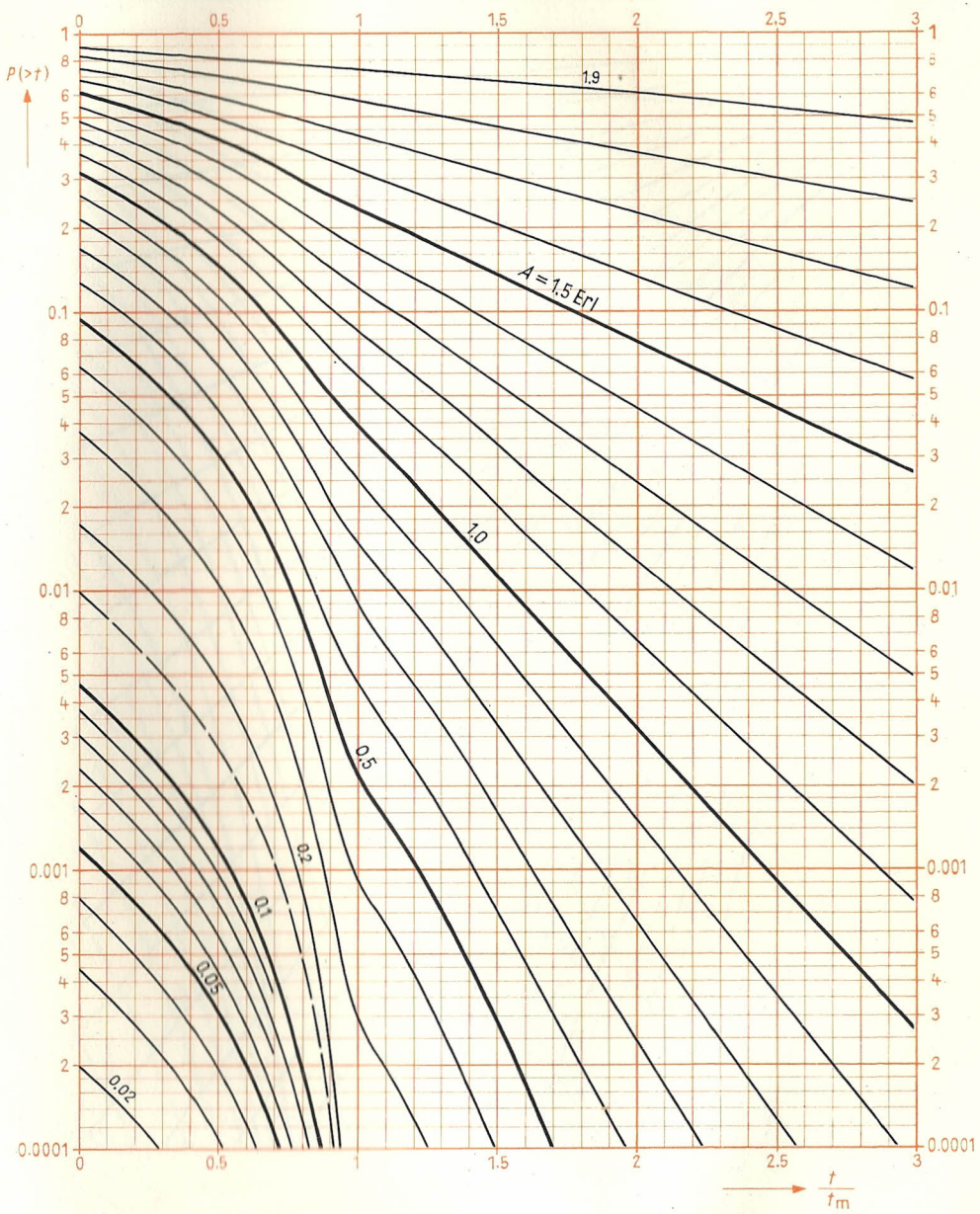
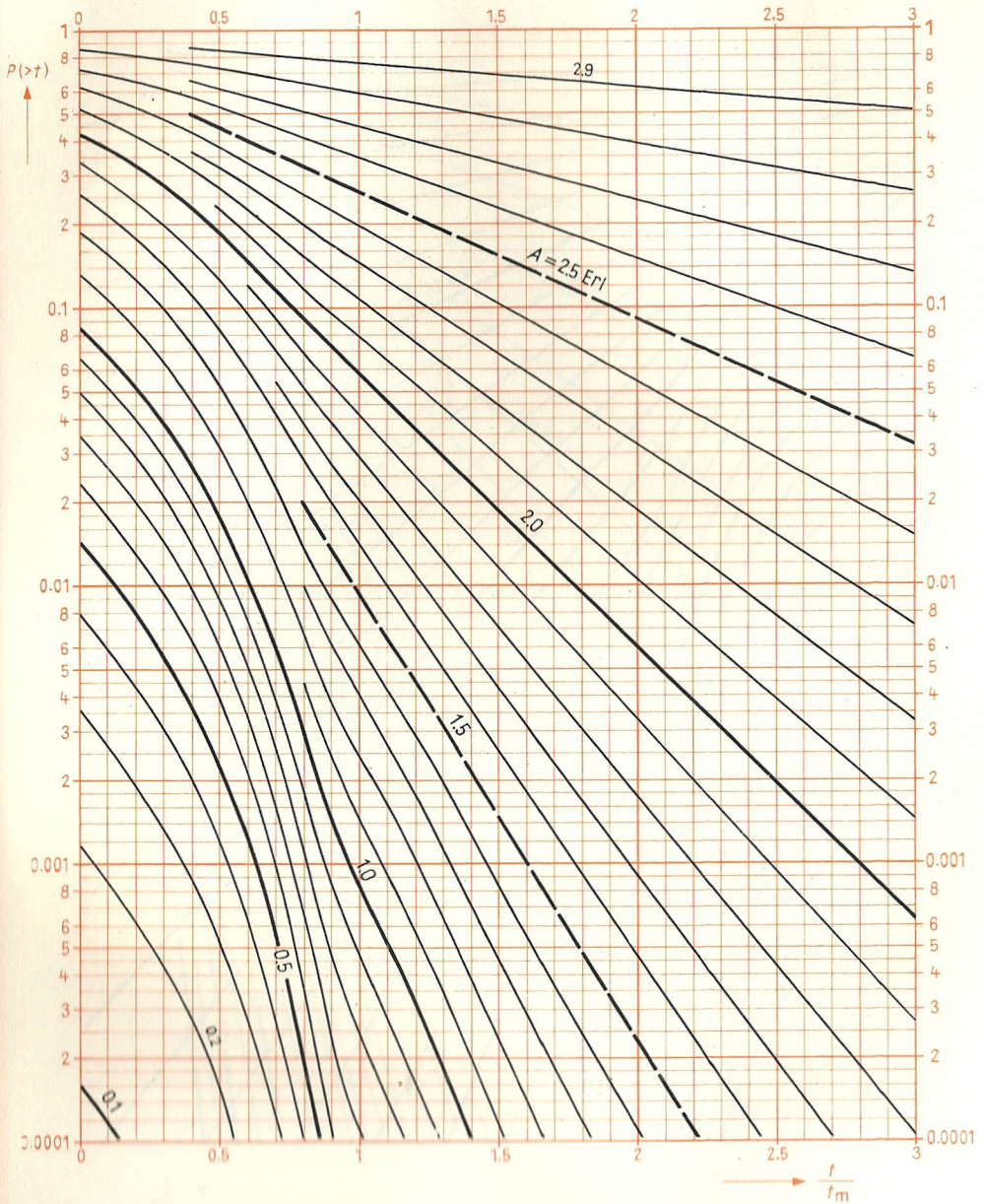


Gráfico 19



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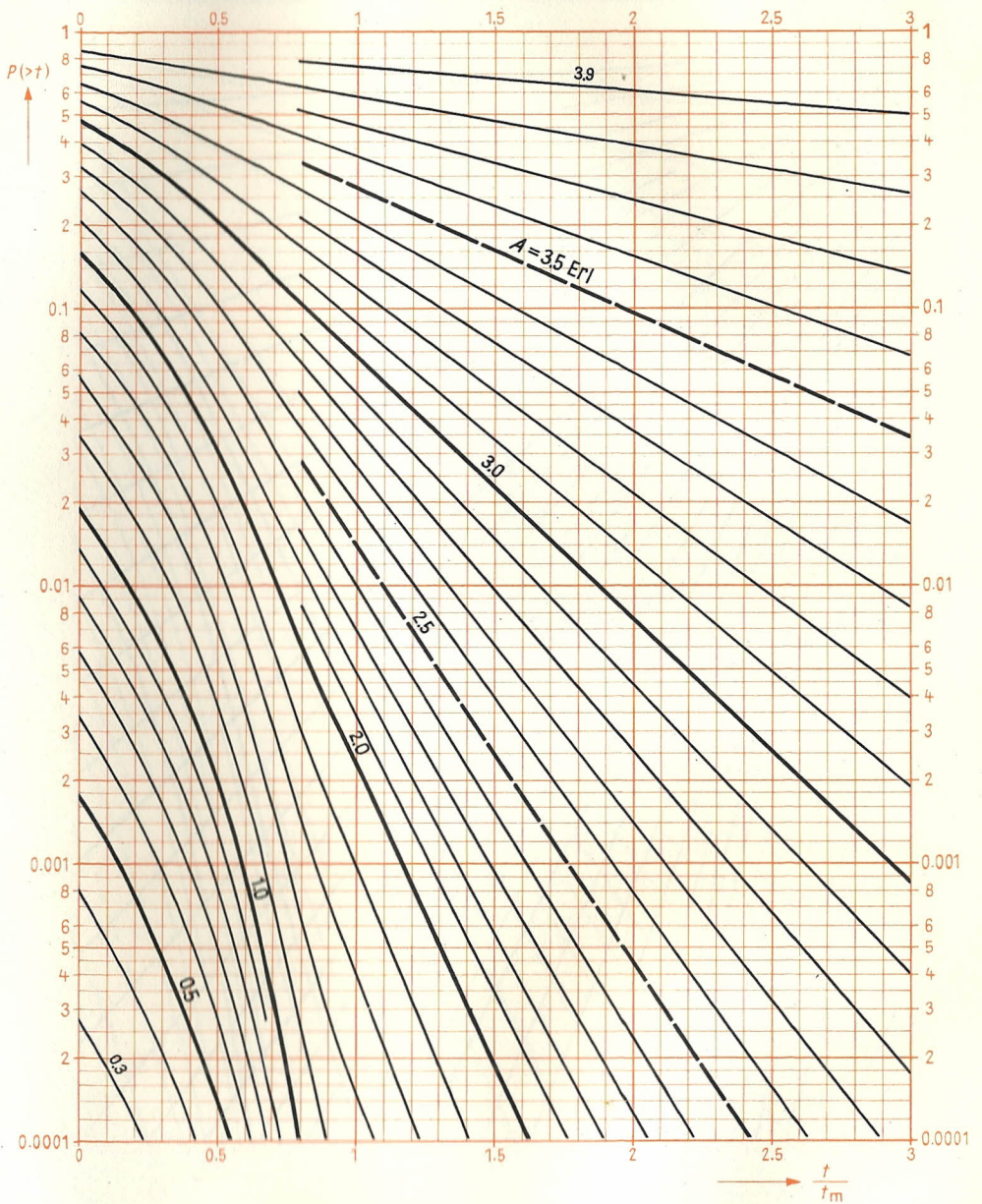

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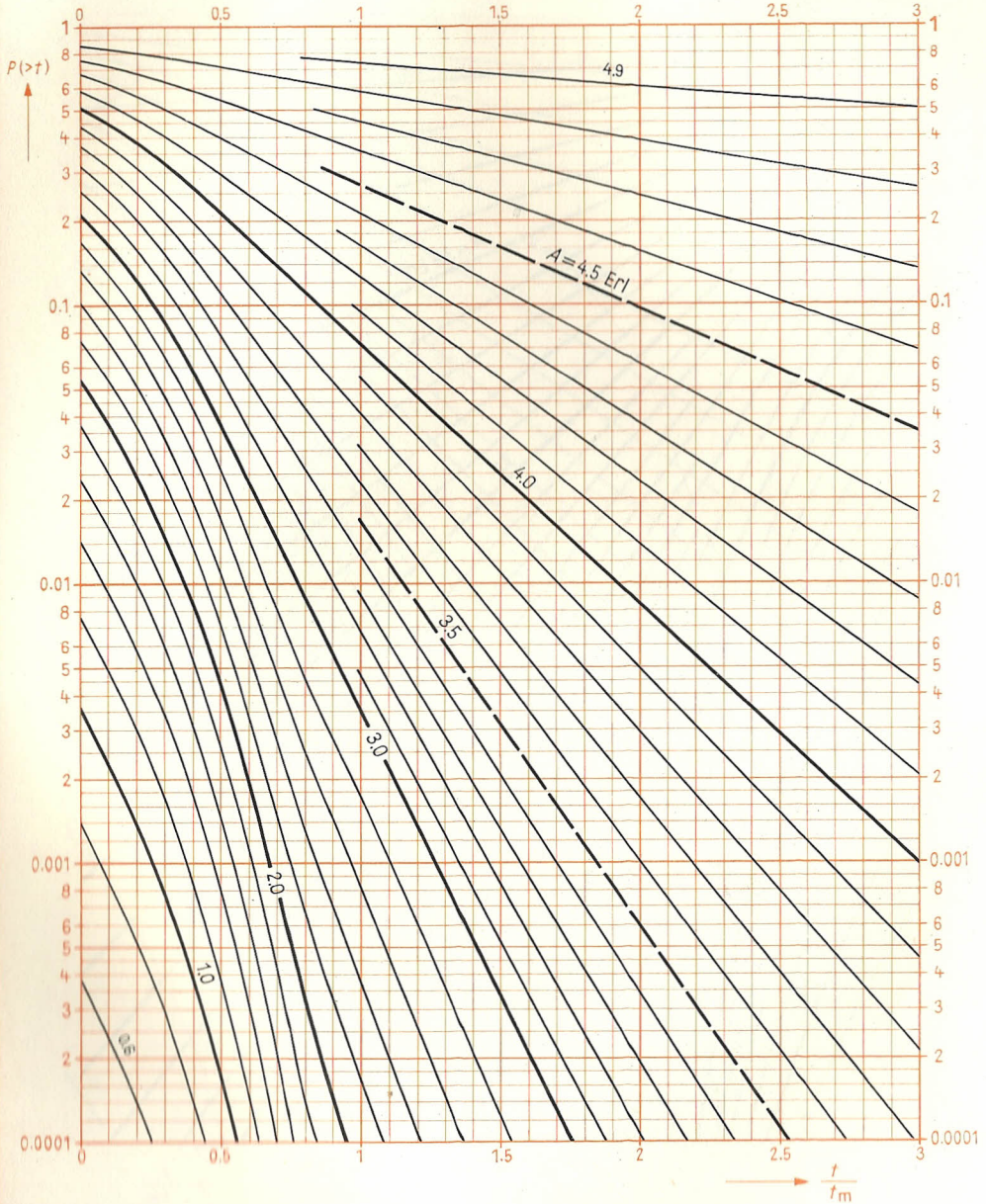

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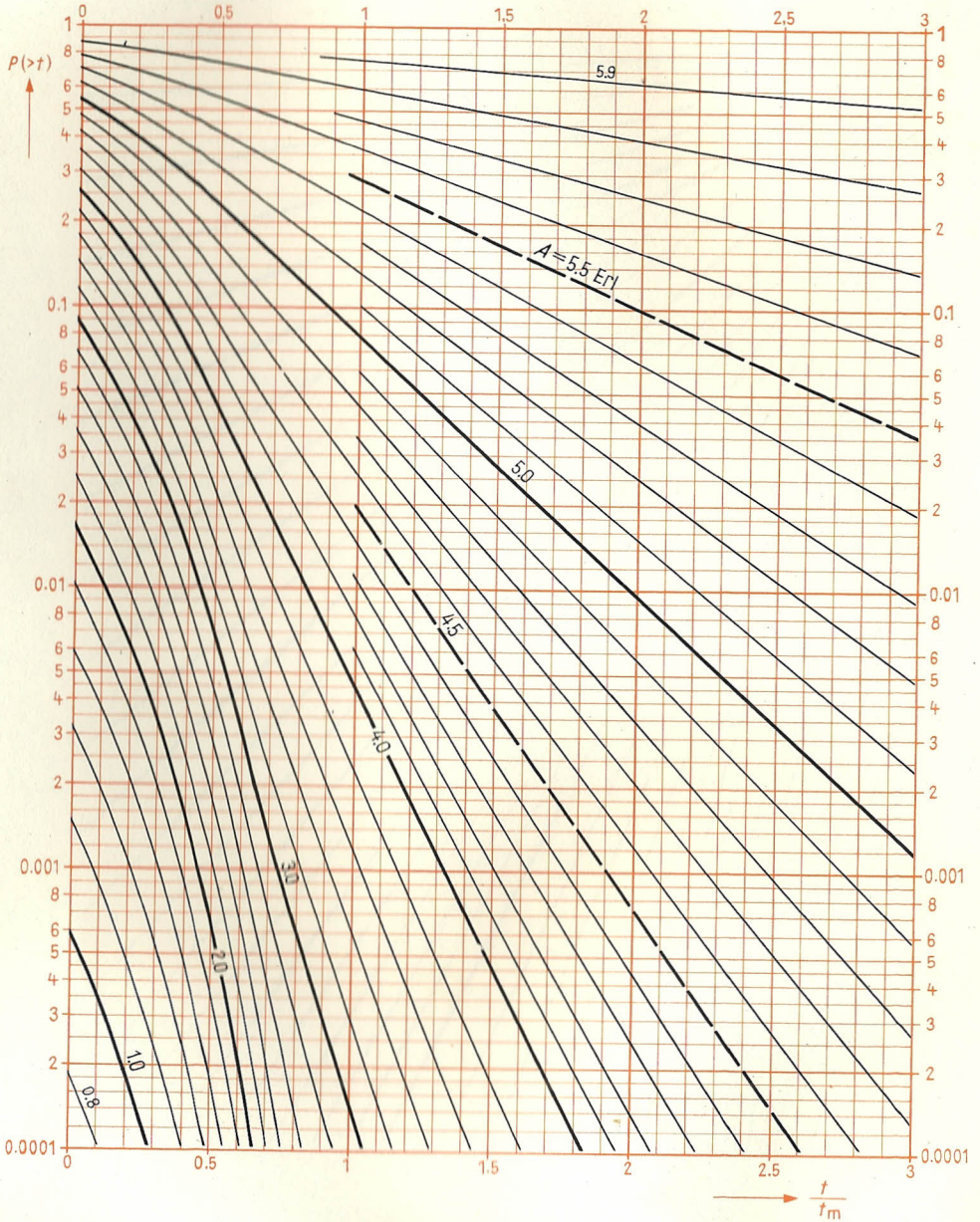


Gráfico 23

Tempo de ocupação constante
Atendimento das chamadas na seqüência da chegada

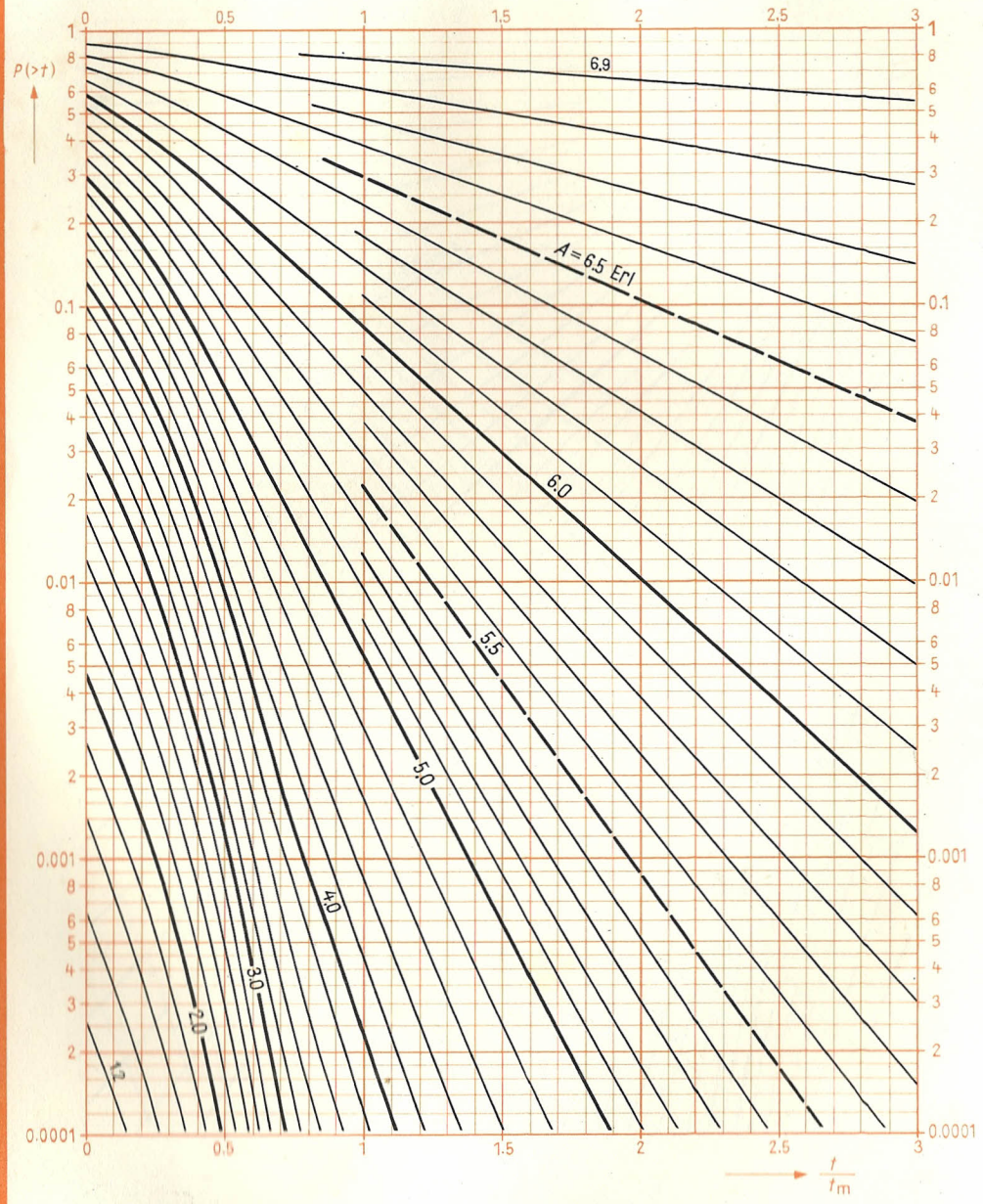
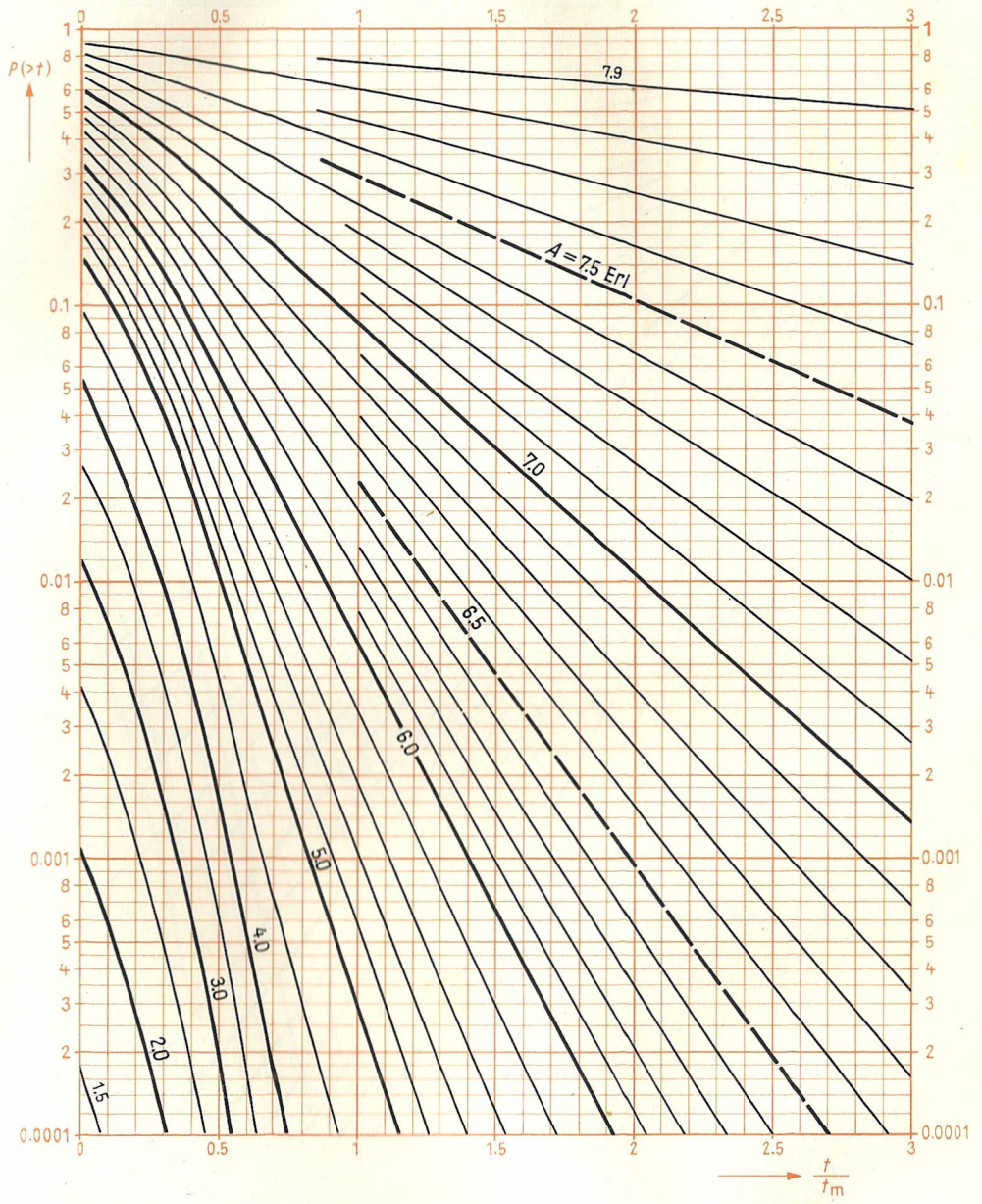


Gráfico 24

Tempo de ocupação constante
Atendimento das chamadas na seqüência da chegada



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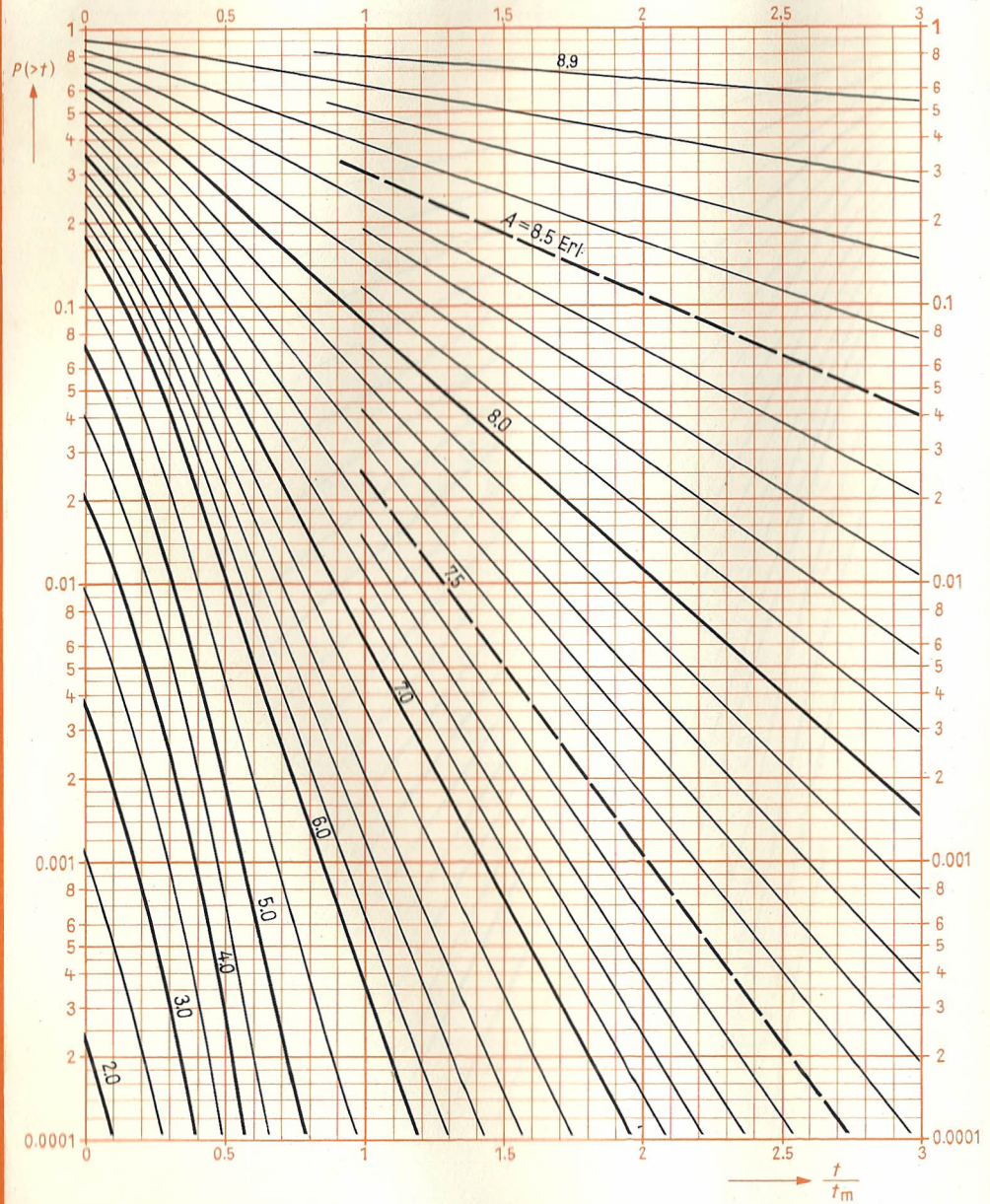

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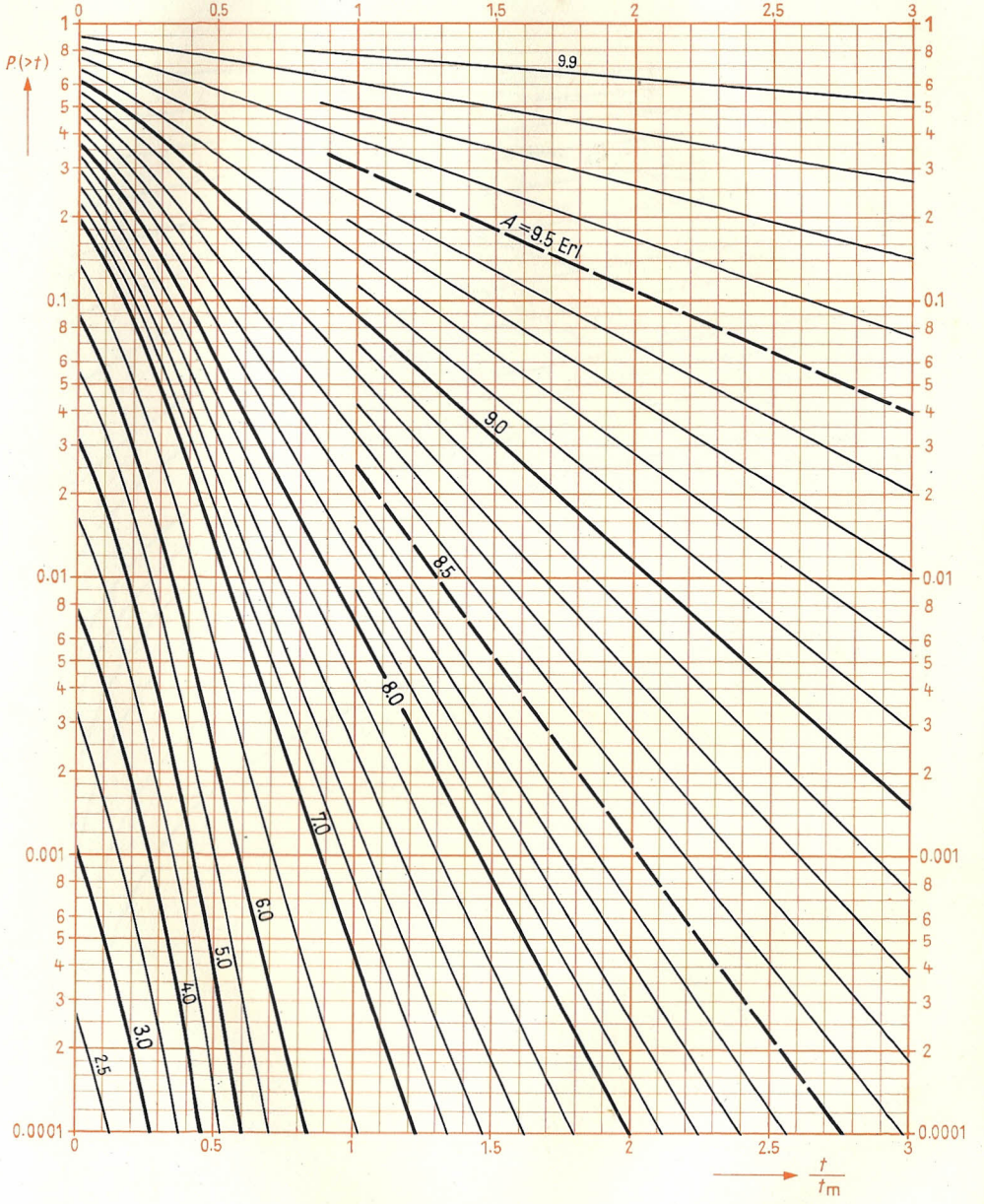

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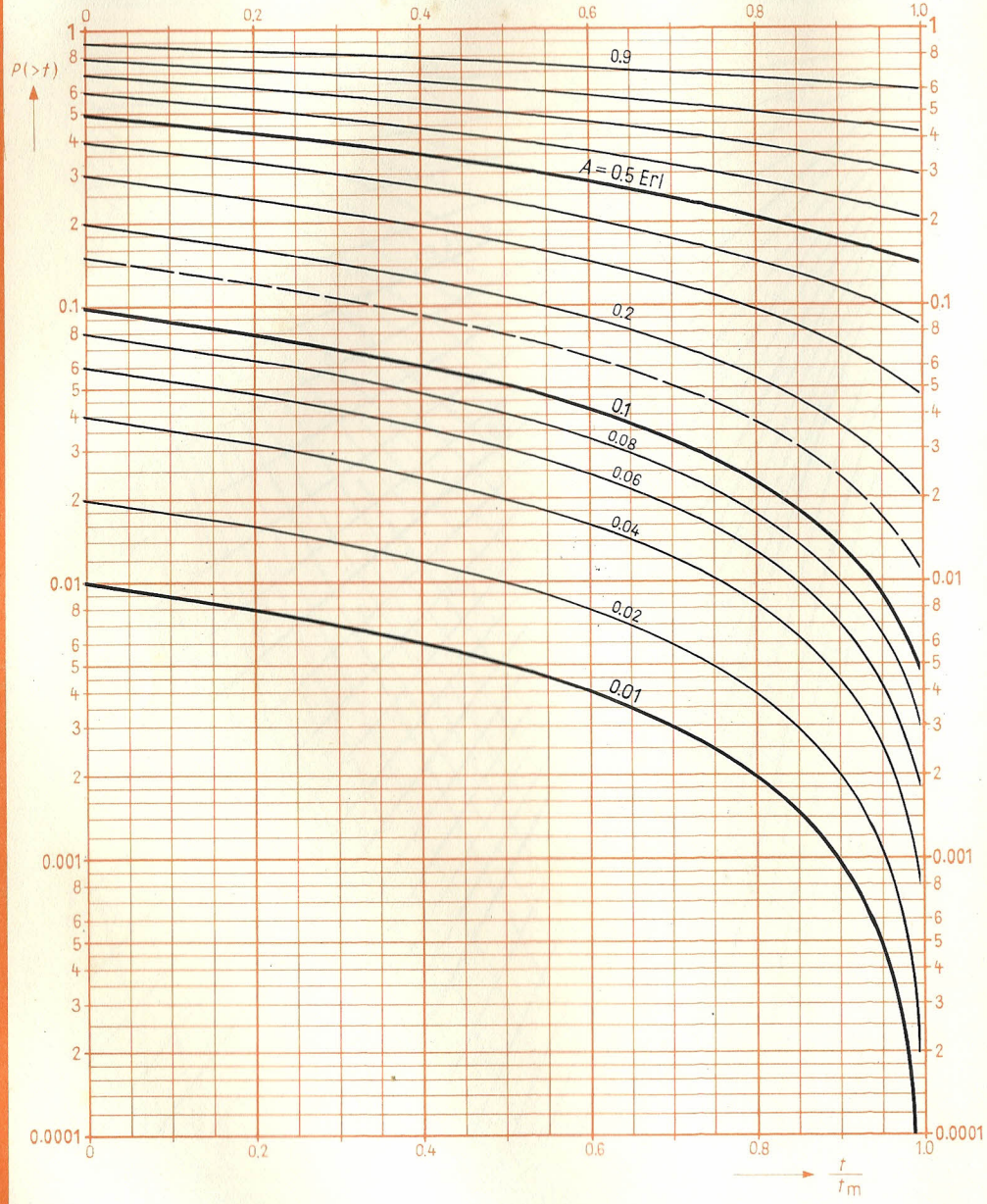

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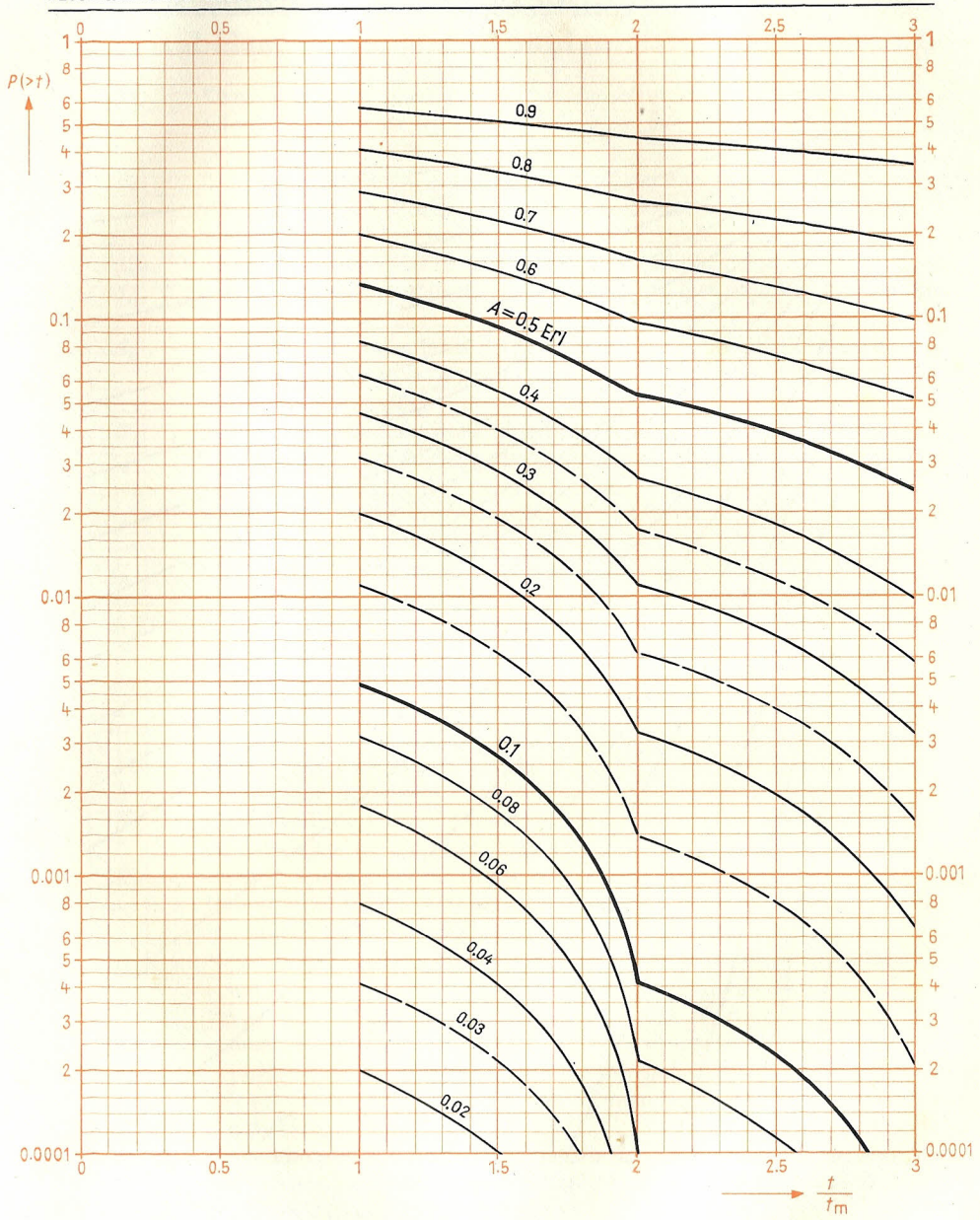

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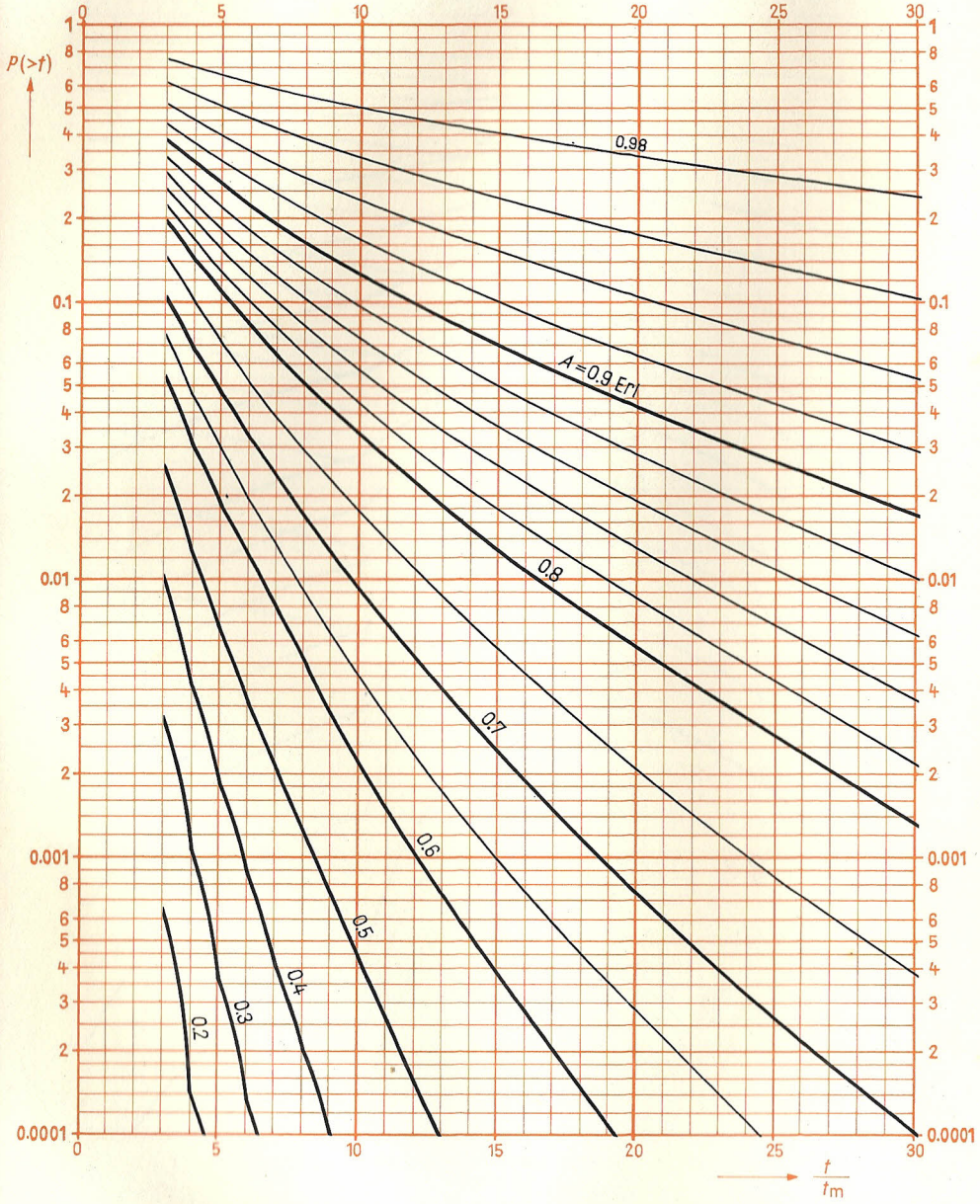

Gráfico 30

6 Resumo dos símbolos utilizados nas tabelas, gráficos e fórmulas

A Carga oferecida; intensidade do tráfego oferecido

A_E Oferta ao grupo de troncos de reserva no método do coeficiente de dispersão (veja Sec. 4.3)

A_F Símbolo utilizado nas regras de interpolação e de extrapolação [Sec. 2.3, fórmulas (2.13) e (2.14)] para os valores da carga oferecida indicado na margem de $N \geqq 250$ saídas, nas tabelas de perda.

A_{MPJ}, A_0 Valores auxiliares das fórmulas para o cálculo da carga oferecida A, em caso de acessibilidade plena [para maiores detalhes, veja Sec. 2.2, fórmula (2.9)]

A_Z Valor auxiliar nas tabelas de perda (Secs. 2.5 e 2.6) para interpolação e extrapolação na faixa $N > 250$ saídas [para as regras, veja Sec. 2.3, fórmulas (2.13) e (2.14)].

B Perda: probabilidade de perda; probabilidade de tráfego excedente.

c_A Quantidade média de chamadas oferecidas ao tronco de saída por unidade de tempo.

c_y Quantidade média de chamadas processadas pelo grupo de troncos de saída por unidade de tempo.

c_R Quantidade média de chamadas rejeitadas por unidade de tempo.

D Coeficiente de dispersão do tráfego excedente.

$h(T)$ Probabilidade de que uma chamada existente dure mais do que um intervalo de tempo T, contado a partir de um instante considerado.

k Acessibilidade.

λ Fator de proporcionalidade; coeficiente para a intensidade das chamadas das fontes de tráfego (veja Secs. 3.1 e 3.2).

M Quantidade de fontes de tráfego.

N Quantidade de troncos de saída.

N_E Quantidade de troncos de saída do grupo de reserva no caso da metade do coeficiente de dispersão (Sec. 4.3).

N_F Símbolo empregado nas regras de interpolação e extrapolação [Sec. 2.3, fórmulas (2.13) e (2.14)], para os números de troncos de saída indicados nas tabelas de perda para a faixa de N 250 troncos de saída.

N_{LIN} Valor auxiliar para a determinação da carga oferecida A nas tabelas 2.6 [para maiores detalhes veja Secs. 2.1 e 2.2 e fórmula (2.10)].

P_n Probabilidade, que em um instante considerado existam exatamente n chamadas simultâneas.

$P(>t)$ Probabilidade de ultrapassagem; porcentagem das chamadas oferecidas que precisam aguardar mais do que o tempo t, pelo início do atendimento. atendimento.

$P(>0)$ Probabilidade de espera; porcentagem de chamadas oferecidas, que não são processadas imediatamente; caso limite da probabilidade de ultrapassagem $P(>t)$ para $t = 0$.

Q Relação de graduação.

R Intensidade do tráfego rejeitado; tráfego de perda, tráfego excedente.

t_m Tempo médio de chamadas dos troncos de saída.
t_w Tempo médio de espera das chamadas de espera.
$\overline{t_w}$ Tempo médio de espera das chamadas oferecidas.
$W(n, T)$ Probabilidade, que no intervalo de tempo T cheguem exatamente n chamadas.
y Carga processada; intensidade de tráfego processado.

A unidade de tempo à qual se referem as definições indicadas podem ser fixadas arbitrariamente para cada caso. Ao empregarmos as fórmulas, entretanto, todos os valores presentes devem referir-se à mesma unidade de tempo.

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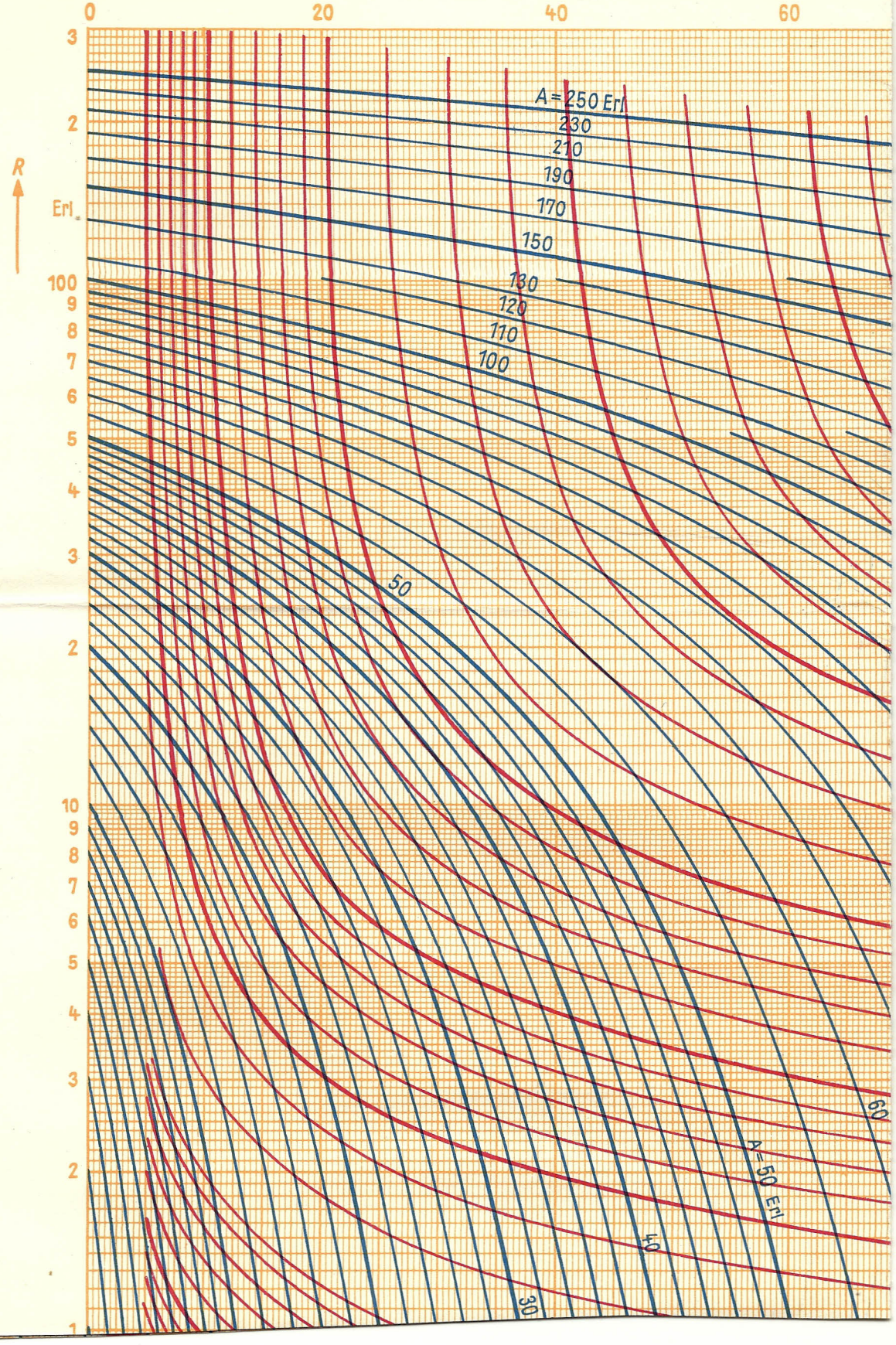

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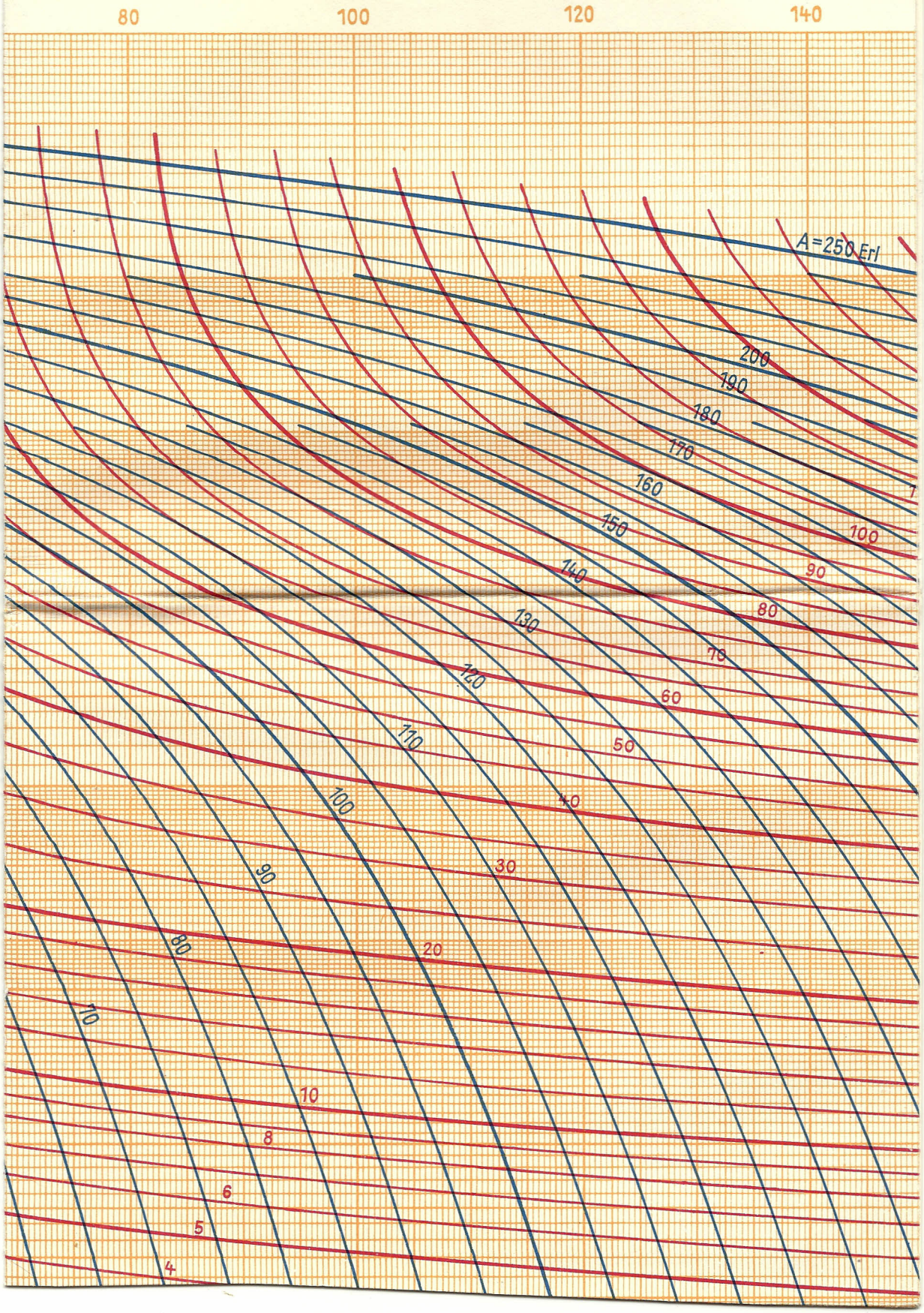

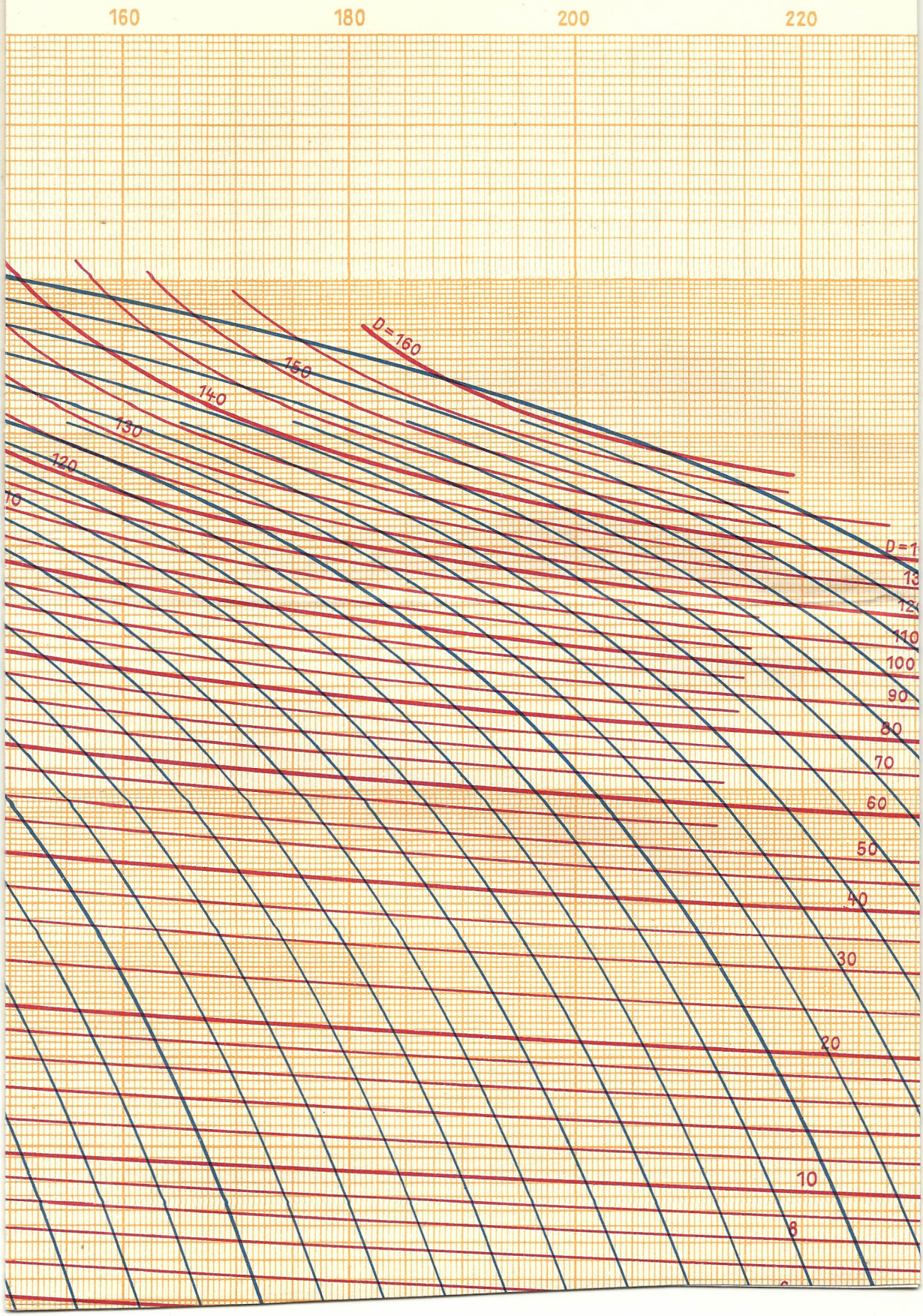
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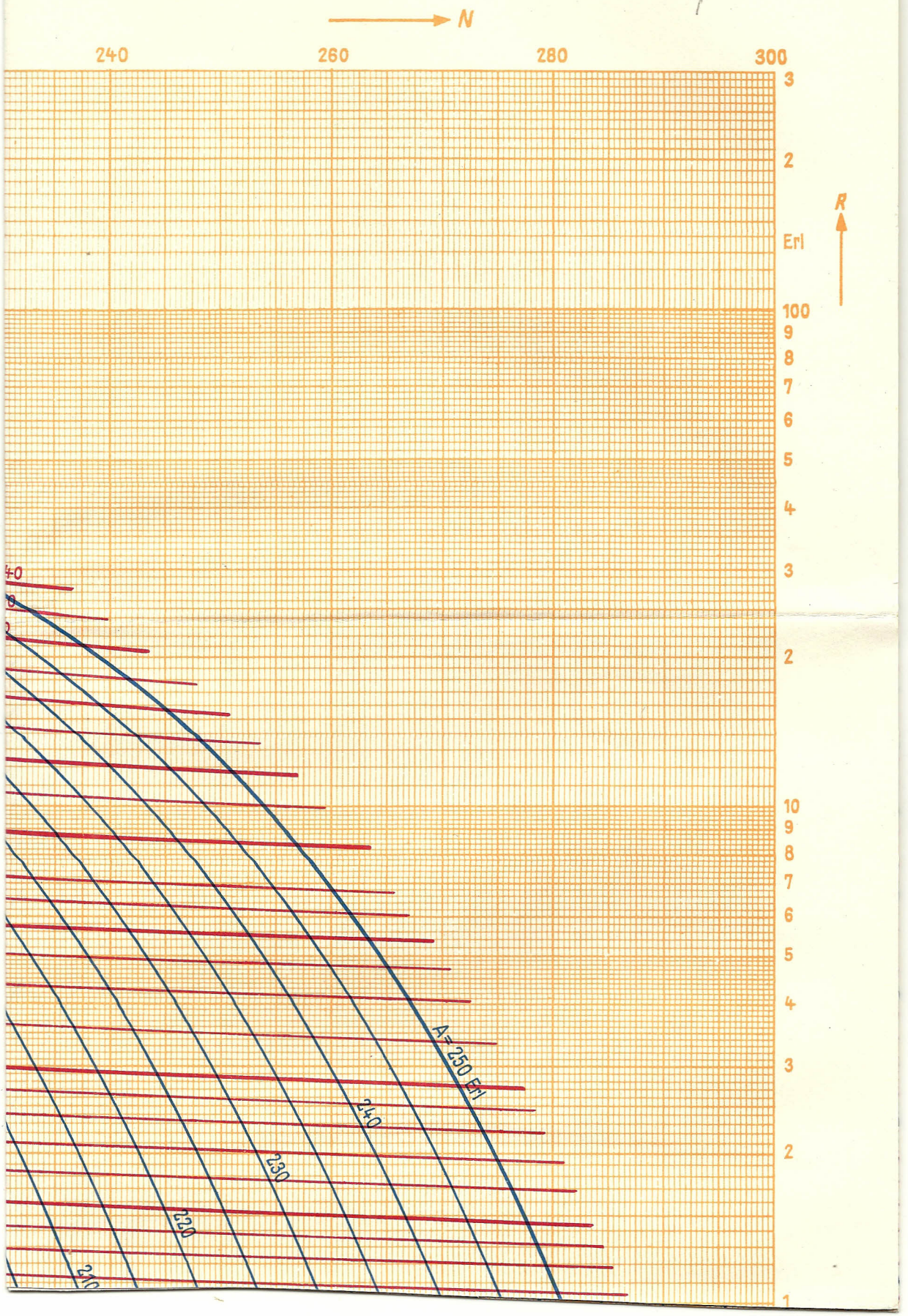
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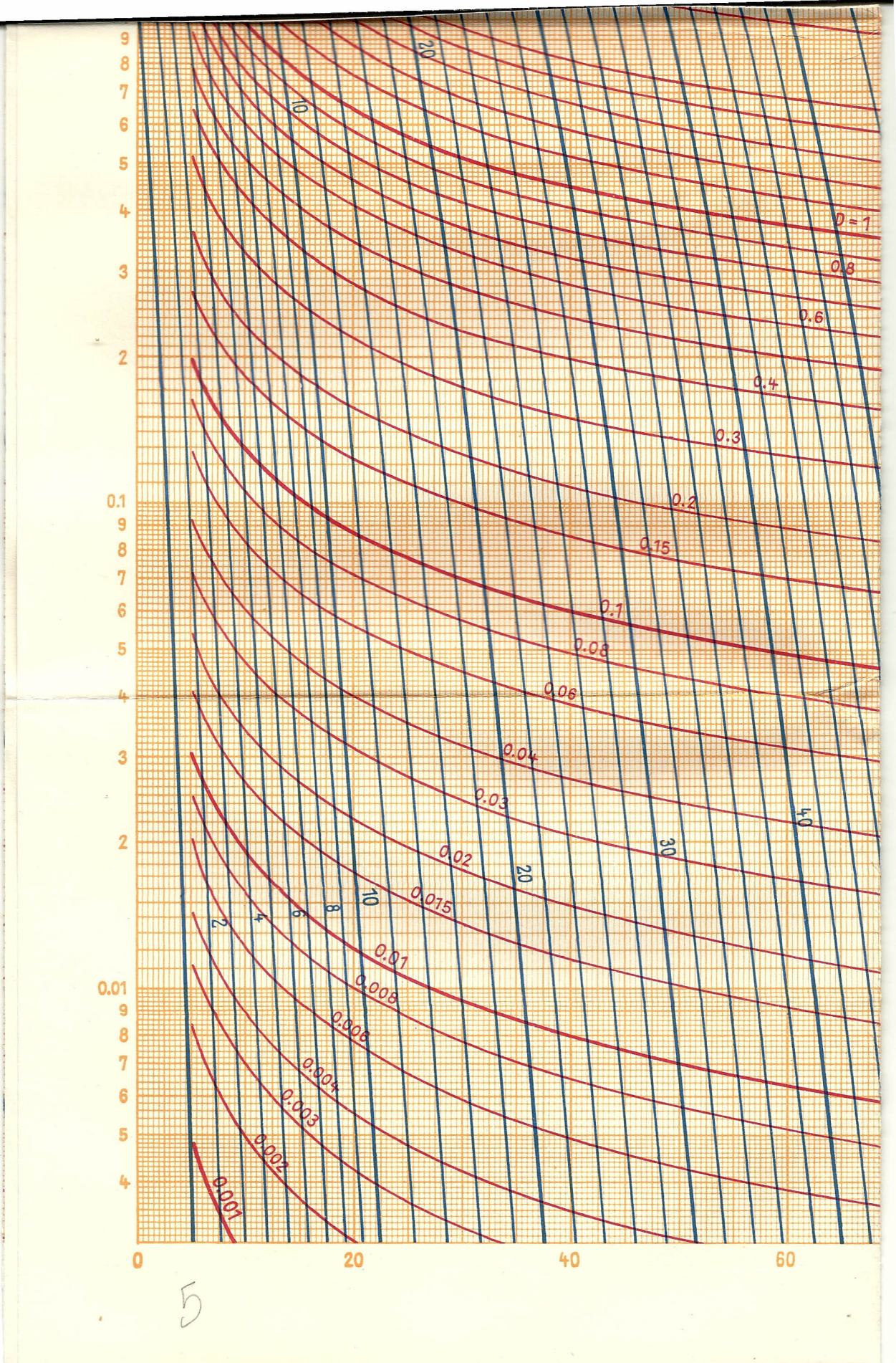
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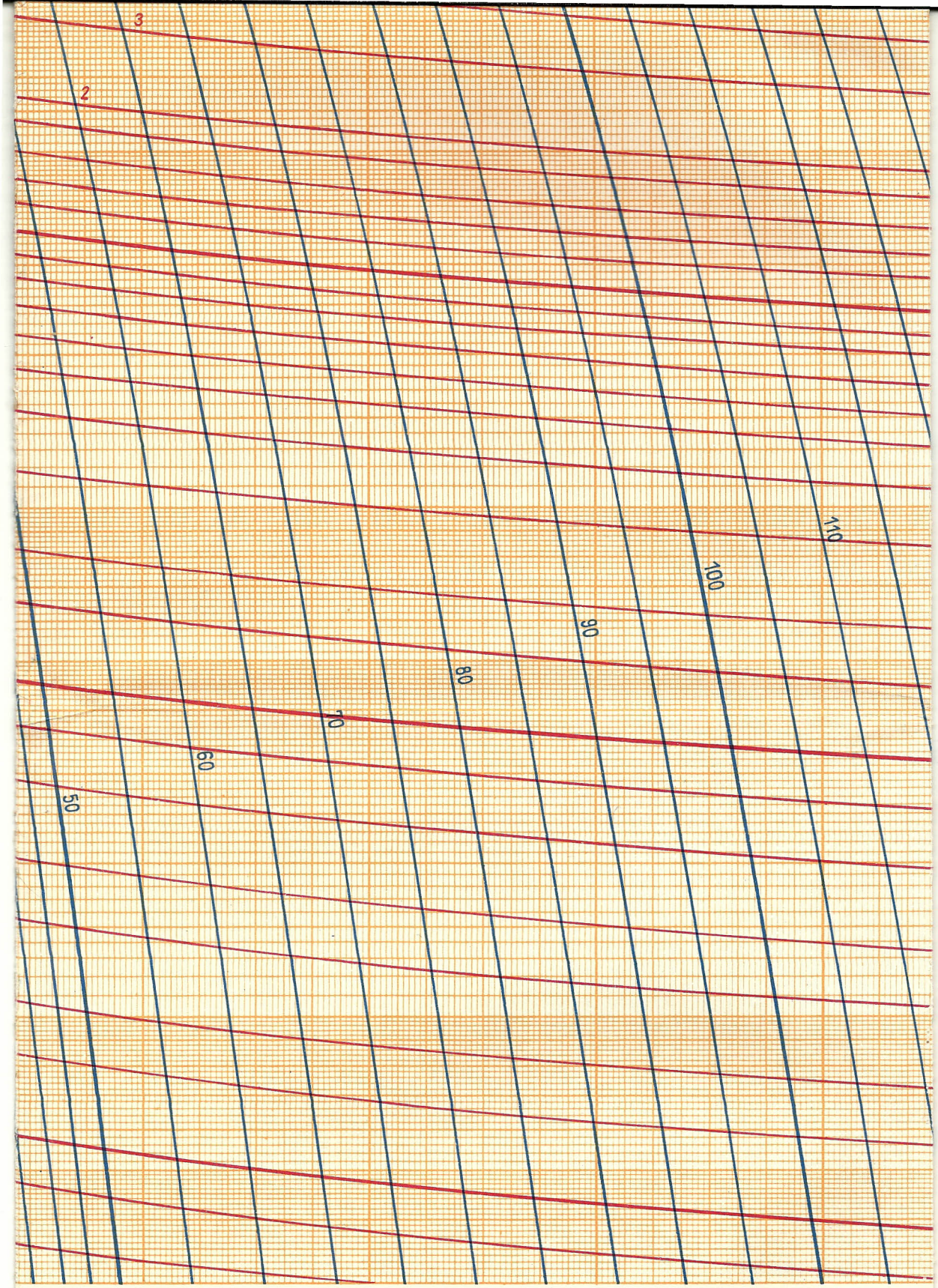
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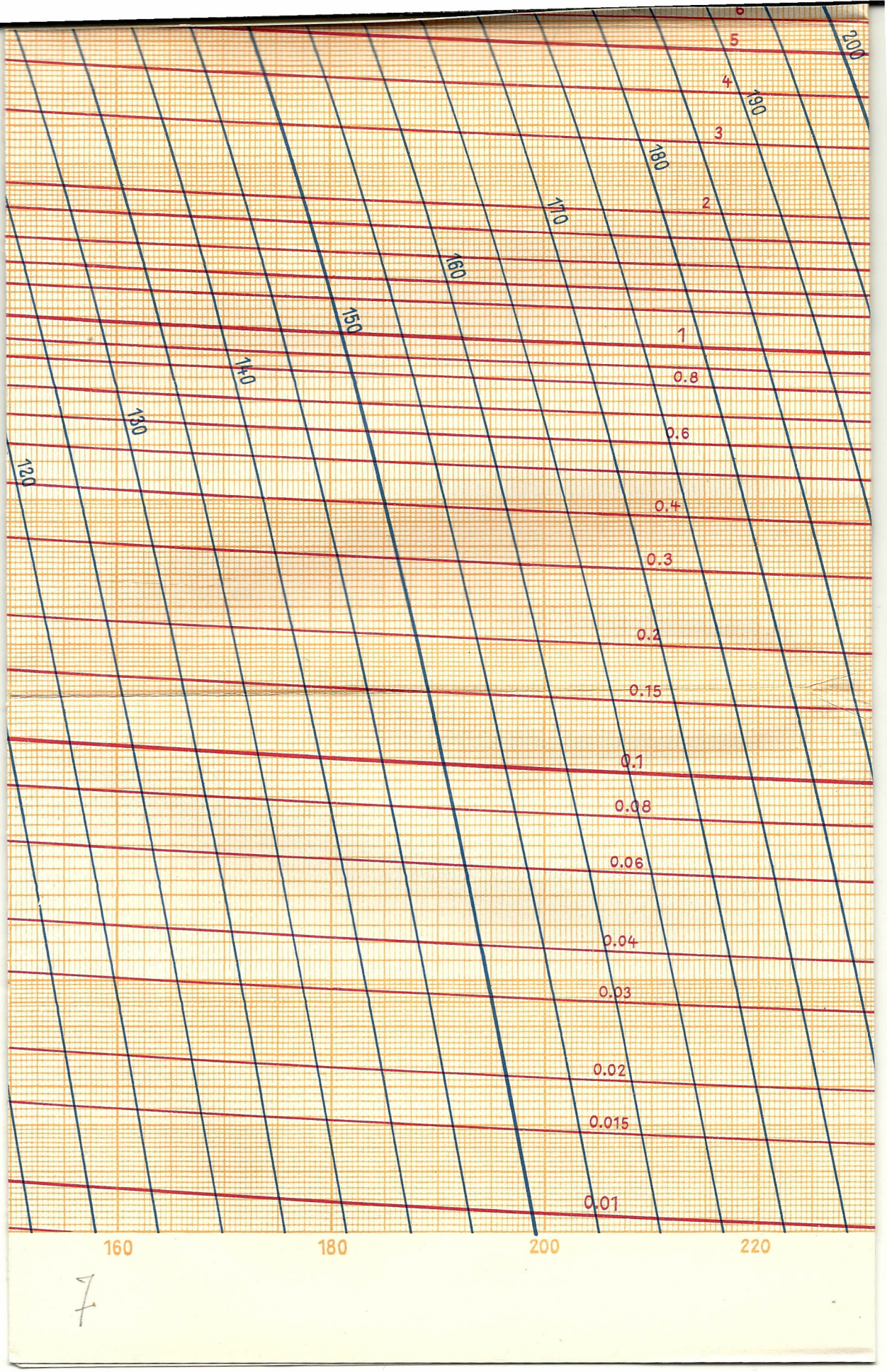
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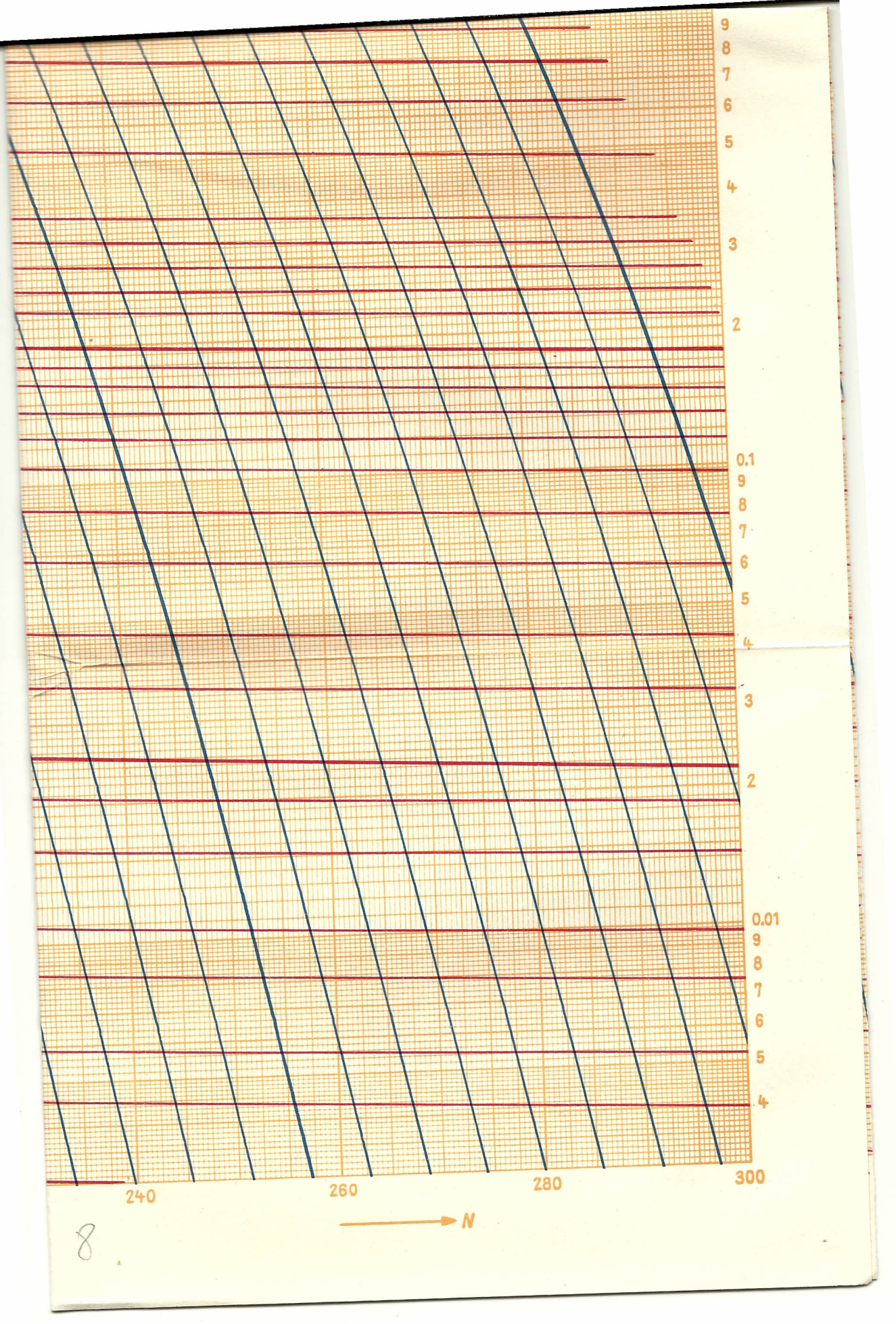
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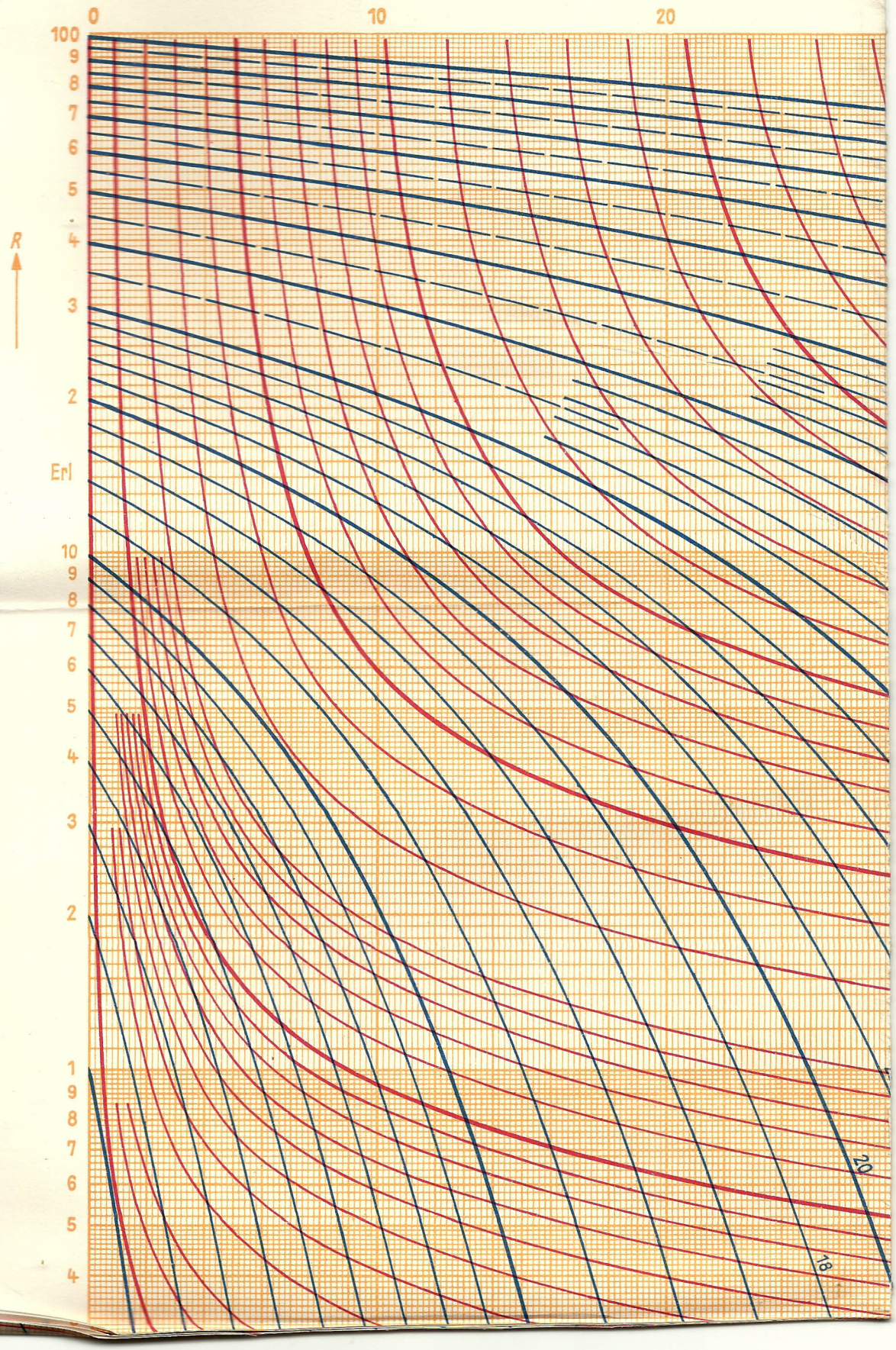

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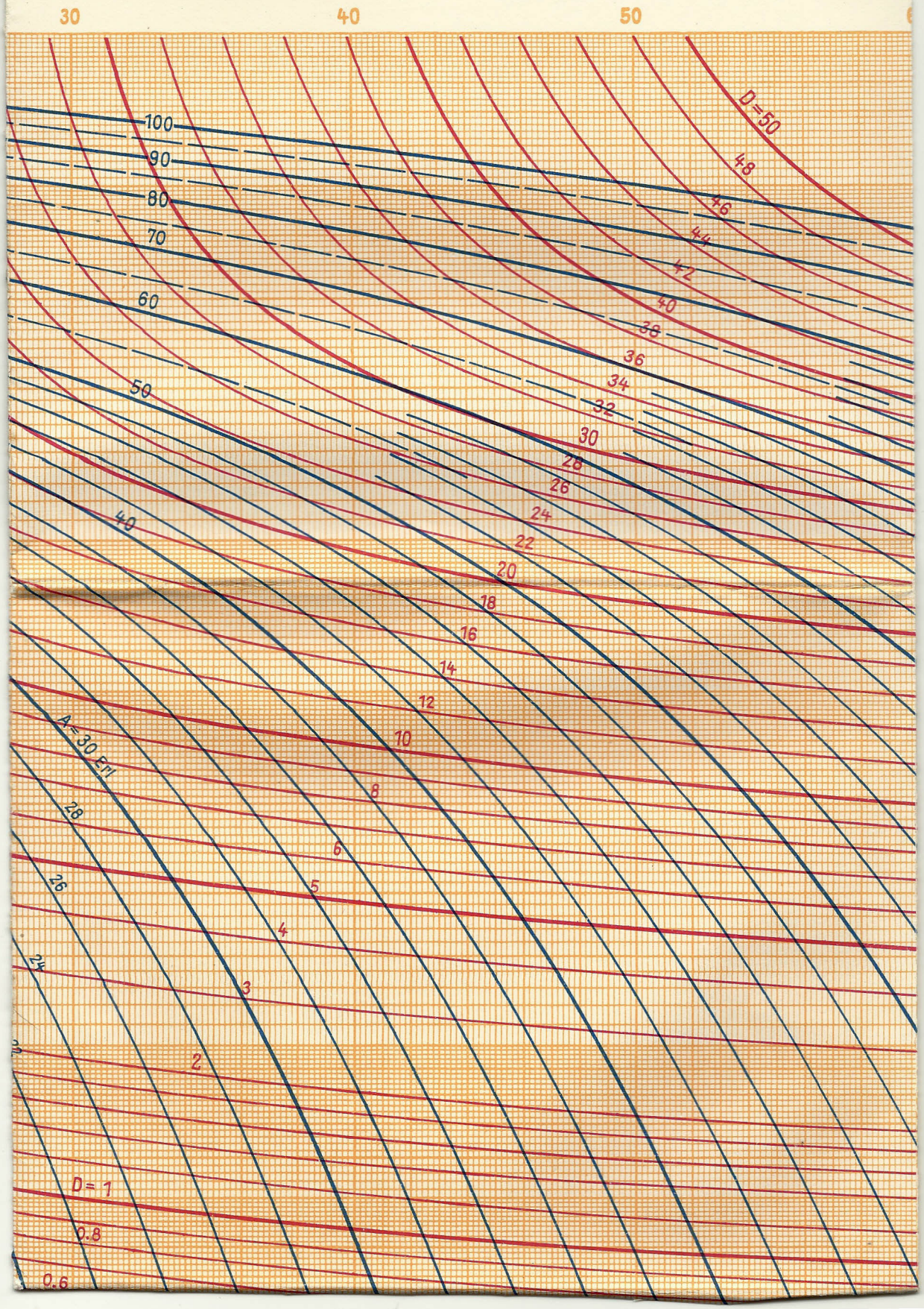

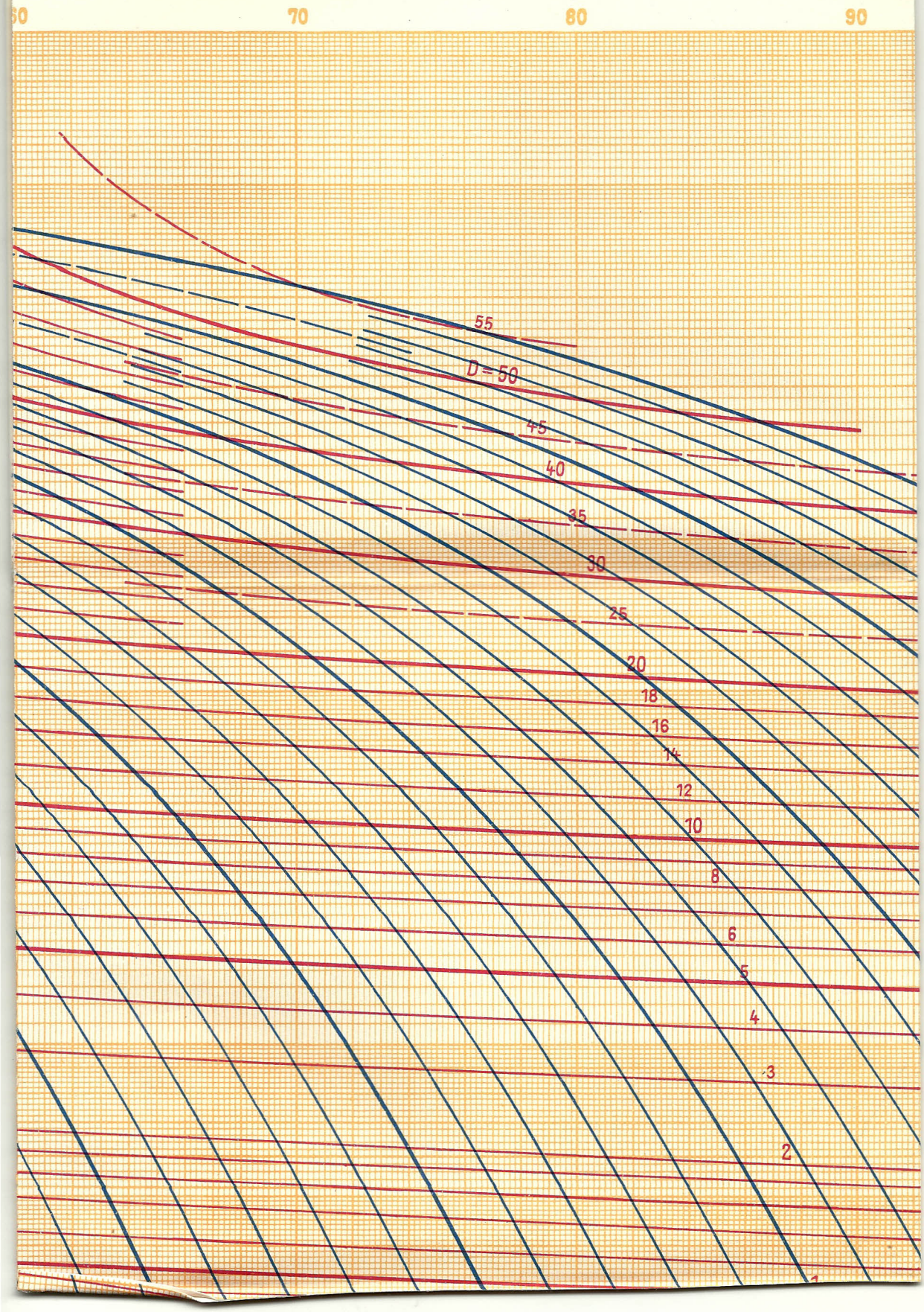
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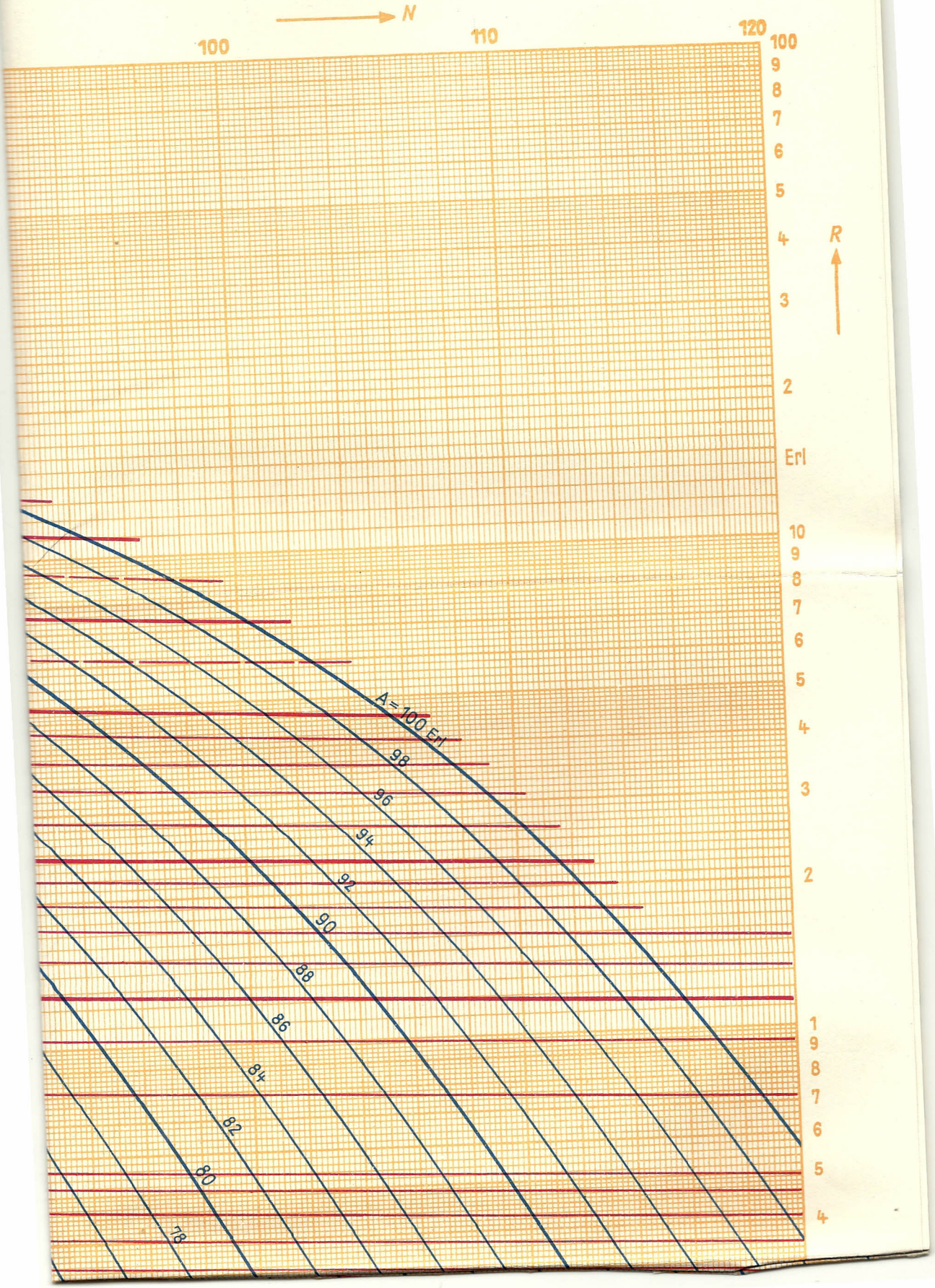
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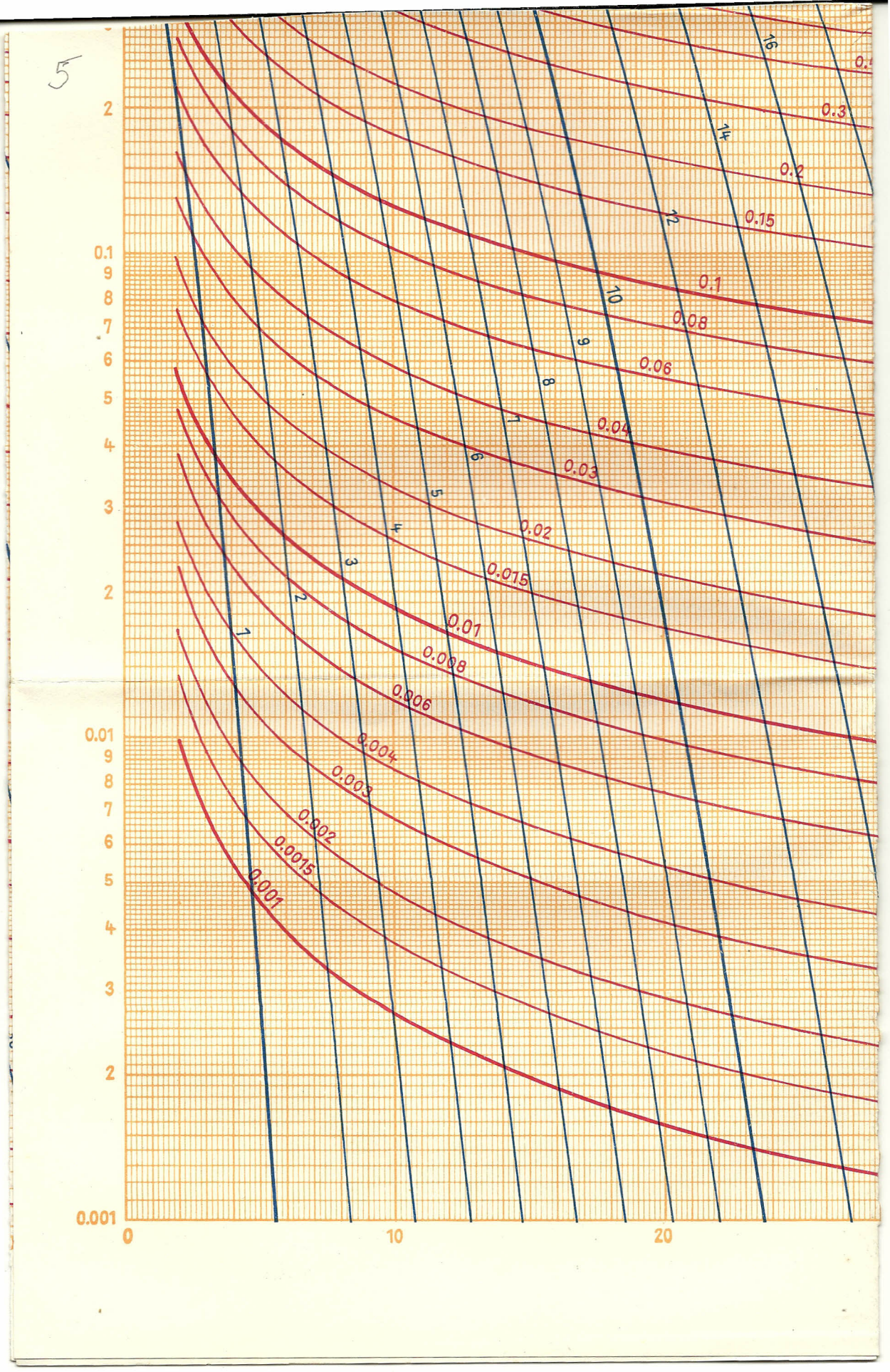
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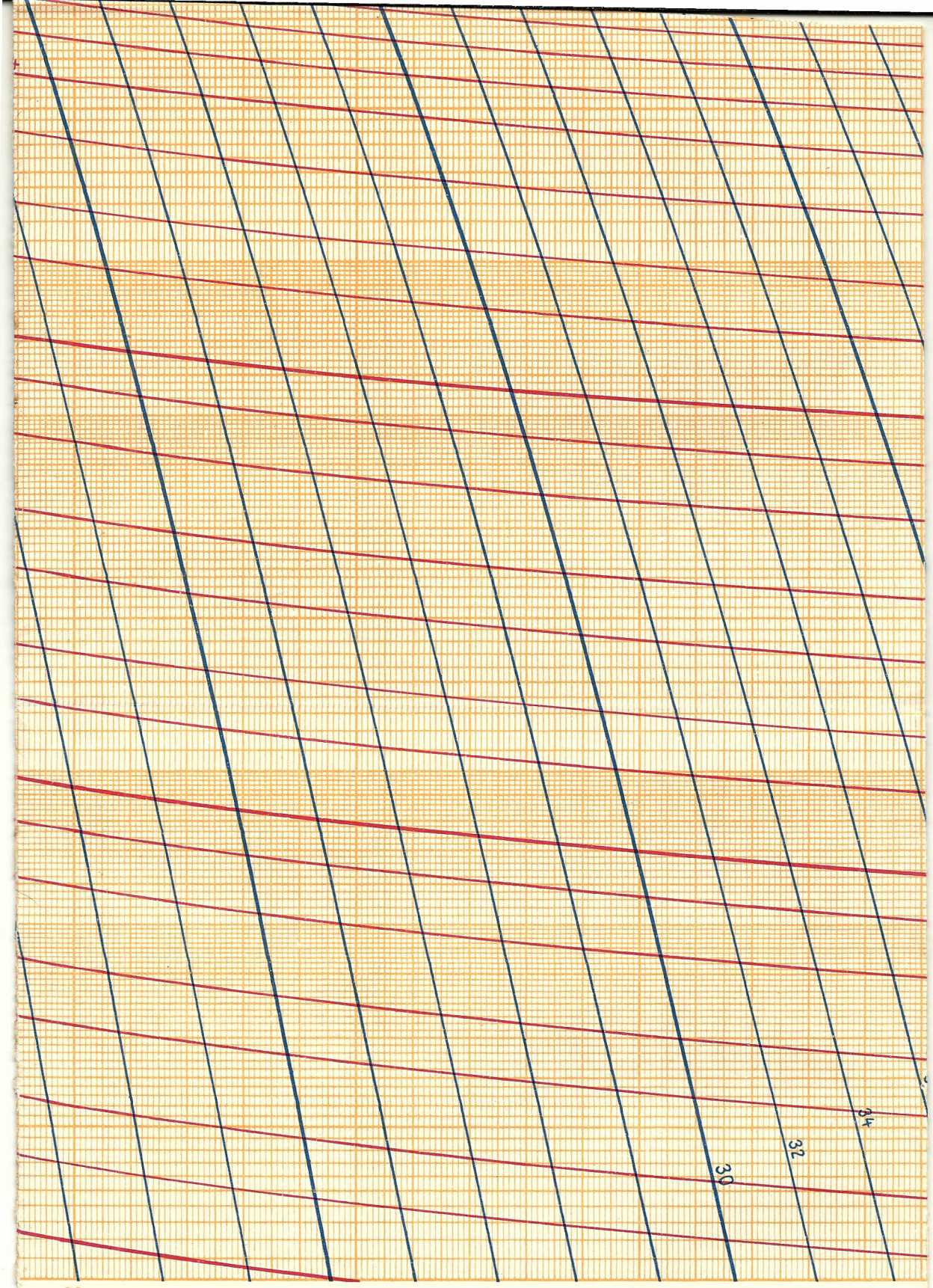
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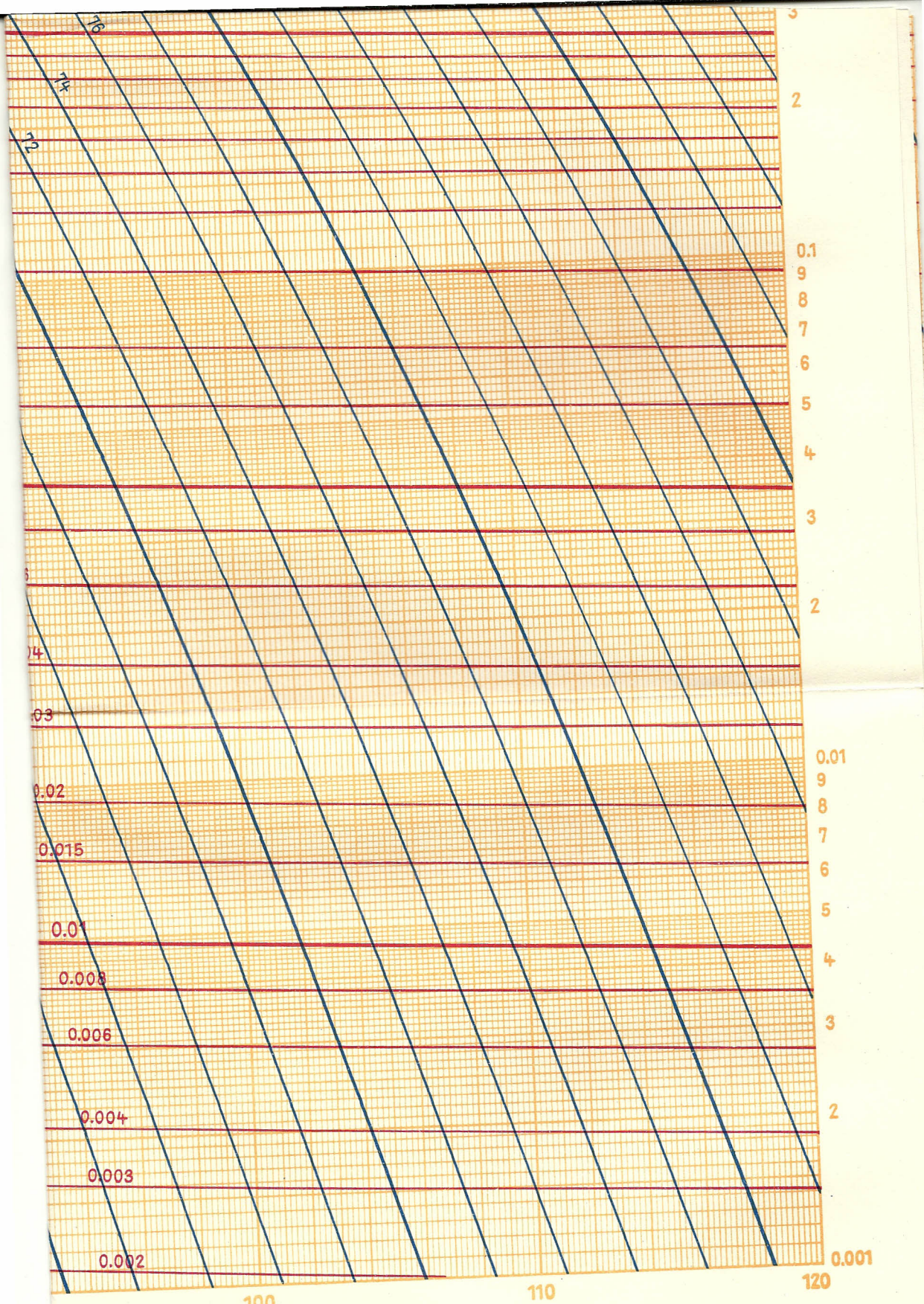
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